

American Artisan

Founded 1880

The Warm Air Heating and Sheet Metal Journal

Vol. 95, No. 26

CHICAGO, JUNE 30, 1928

\$2.00 Per Year

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AMERICAN ARTISAN

June 30, 1928

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GEO. A. LEEBER,
TREASURER



ADDRESS ALL COMMUNICATIONS TO THE COMPANY



June 13, 1928.

American Artisan,
620 So. Michigan Ave.,
Chicago.

Gentlemen:-

I have read with much interest your various articles on Window Displays for Furnace Dealers, and think the one last week, consisting of a four-page insert on heavy book paper is a "peach". So much so, that I am using the idea in a circular going out over the signature of our salesmen to each of their dealers, copy of which I am enclosing.

I hope you will keep up the good work on this subject, which is one sorely needed by furnace men and in which, I am sure, the manufacturers will be glad to cooperate if you can only get the dealers interested.

With best wishes for your success, we are

Yours truly,

LANGENBERG MANUFACTURING CO.

JJW:MW

John J. Walsh
Secretary.

DIRECT FIRED
UNIT HEATER

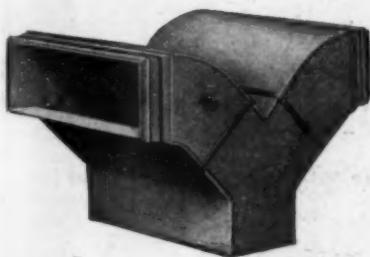
1888  YEARS CONTINUOUS SERVICE 1928

NO Friction



NOTICE the easy long curve on this section of HANDY PIPE—that means less heat loss, an even flow of warm air to the rooms, and a better satisfied customer.

EVERY section of HANDY PIPE is designed with the FRICTIONLESS idea in mind—notice this section—only one place for the warm air to go and it is gently guided there by *curved* angles.



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All Warm Air
Heating Supplies



You'll Be Sorry You Passed It Up!

WHEN some other wide-awake dealer in your locality grabs off the Rybolt agency, and you see his business increasing by leaps and bounds, you'll wish you had obeyed that impulse and got there first.

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Consulting Engineer

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This book explains the heat unit, foot pound and similar measures in such a way that the less technical mind can readily understand and apply them.

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Plumbing and Heating Contractors will find it an invaluable reference book. Every phase of Heating and Ventilating treated is developed along the lines of the most recent practice.



258 Pages,
6x9 ins.

77 Figures—
Cloth, \$3.00

Furnace Heating

By
William G. Snow

Member: American Society of Mechanical Engineers; American Society of Heating and Ventilating Engineers

THIS practical book deals with the different types of furnaces, their design, construction and proper installation, including warm air, combination heating systems, also covering the main features of the one pipe or pipeless furnace.

The author explains in simple English practical information on heating and ventilation of school and public buildings, churches, stores, etc. He also covers the setting up of furnaces, and describes all types of furnace fittings.

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620 S. Michigan Ave., Chicago, Ill.

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Give them a distinctive warm air heating plant that has genuine merit.



illustrated above is such a furnace—it is built especially for soft coal burning and is

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A distinctive part of its construction --- the Three-Way Air Blast makes it so.

Write for catalog which tells all about it and the ATH-A-NOR agency.

The May-Fiebeger Furnace Co.
Newark, Ohio



Thatcher Meteor Furnace—an economical warm air heating plant, with upright shaker handle if desired.

Features Which Make Thatcher "Meteor" a Popular Warm Air Installation

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Large feed door in combustion chamber makes firing easier and accommodates chunks of coal or wood.

Choice of one piece cast iron or solid steel plate radiator—advanced horse-shoe design.

Unusually large vapor pan—a health feature—and large easily, accessible soot clean-out door.

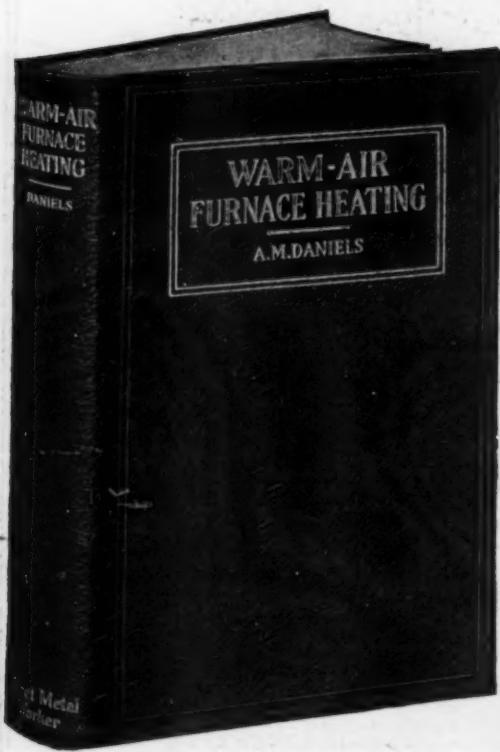
Burns either soft or hard coal—furnished with upright shaker handle if desired. A Thatcher designed and built heater throughout, whose economy in operation is well established. One you can sell and install with utmost confidence.

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A New Book on Warm Air Heating



IT IS the book that thousands have been asking for—a book on Warm Air Furnace Heating that is UP-TO-DATE—a book that covers ev ry phase of the subject giving exact data based on research work Written by A. M. Daniels.

Here is the book that will enable both the experienced furnace man and the student to obtain a working knowledge of up-to-date scientific warm air furnace heating.

Read over the Chapter Headings—notice the complete treatment of the subject.

Many tables are included and some big labor savers in calculating pipe sizes—also many diagrams.

Chapter Headings

1. Historical.
2. Typical Gravity Pipe Warm-Air Heating Systems.
3. Types of Warm-Air Furnaces.
4. Details of Furnace Construction.
5. Heat Losses.
6. Effect of Register-Air Temperature, Leader Area and Size of Wall Stack Upon Heating Effect Produced.
7. Insulating Coverings and Their Effect Upon Leader and Wall Stack Operation.
8. Casing Diameter vs. Furnace Capacity.
9. Air Supply to Furnace.
10. Furnace Capacity and Rating.
11. Register Grilles vs. Plant Capacity.
12. Chimneys and Flues.
13. Humidity.
14. Evaporating Pans.
15. Combination Heating Systems—Warm Air and Hot Water.
16. Gas Warm-Air Heating.
17. Oil-Burning Warm-Air Heating.
18. One-Pipe Furnace Heating Including Modifications.
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good yet all excepting the water pan
which is rusty and I wish you would send
me a new water pan.

Yours truly,
(Signed) Charles D. Eliot,
317 Third Avenue North,
Great Falls, Montana.

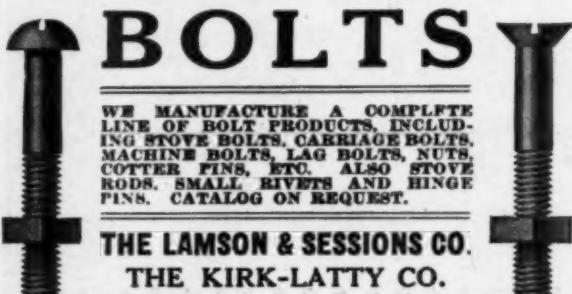
January 9, 1928

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Sheet Metal Work

American Artisan

The Warm Air Heating and Sheet Metal Journal

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"THERE IS NO LAW"

There is no law that requires men to compete with each other upon an unprofitable basis.

There is no law which prohibits you from getting as much or more for your goods as your competitor.

There is no law which prohibits you from informing your competitor as to the prices and terms at which you are selling your goods.

There is no law which prohibits you from having confidence in the information which your competitor gives you.

There is no law which prohibits a manufacturer from suggesting a resale price by jobber to retailer, on his products, and if such resale price provides the jobber with only a fair profit.

There is no law which prohibits the manufacturer from refusing to sell jobbers who do not respect such a resale price.

There is no law prohibiting a jobber from refusing to buy from a manufacturer who does not establish a suggested resale price on his products.

If you had a
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 you
 could make
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JUST stop and figure out how much profit there is in welding jobs.

Then you will know why so many garages and repair shops are buying Prest-O-Weld outfits.

Prest-O-Weld blowpipes are made by the Oxweld Acetylene Company, makers of the famous Oxweld equipment.

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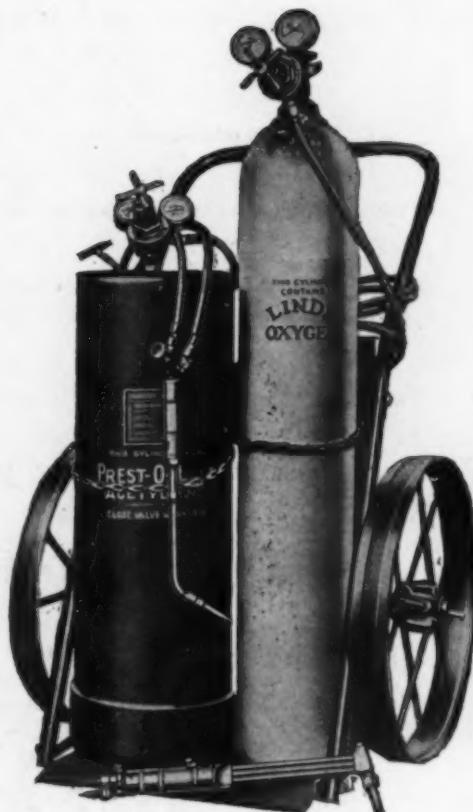
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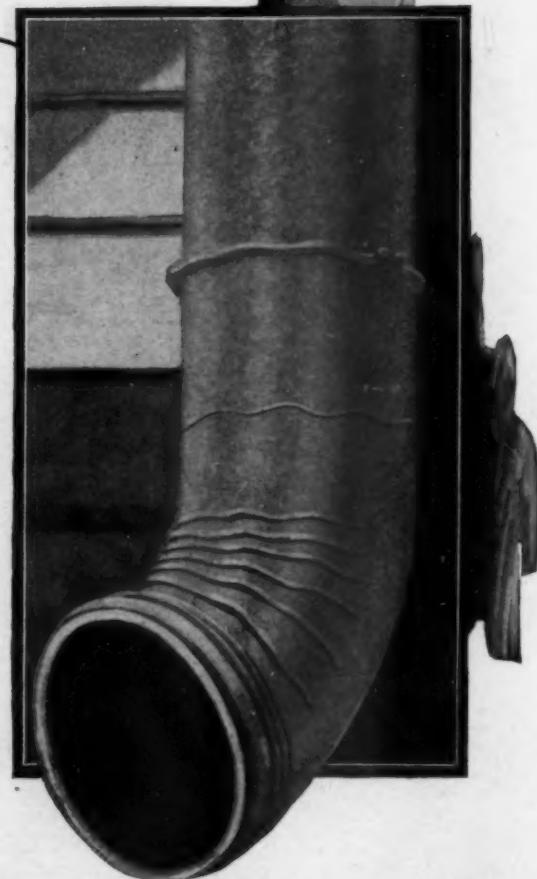
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- 2 The conductor is completely formed and finally hand-dipped in pure molten zinc.

A SAMPLE of Wheeling Hand-Dipped Conductor will enable you to judge why the trade, generally, accepts it as the most satisfactory and the most economical conductor made.

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Exposed to the air, the zinc first protects itself by a natural surface oxidation. This ceases abruptly after closing the pores of the zinc and a lasting barrier to the elements is the result.

Made of Ohio Metal, hand-dipped in pure molten zinc, this conductor is stronger, more rigid and doubly durable. Let us send you a sample for close-up inspection.



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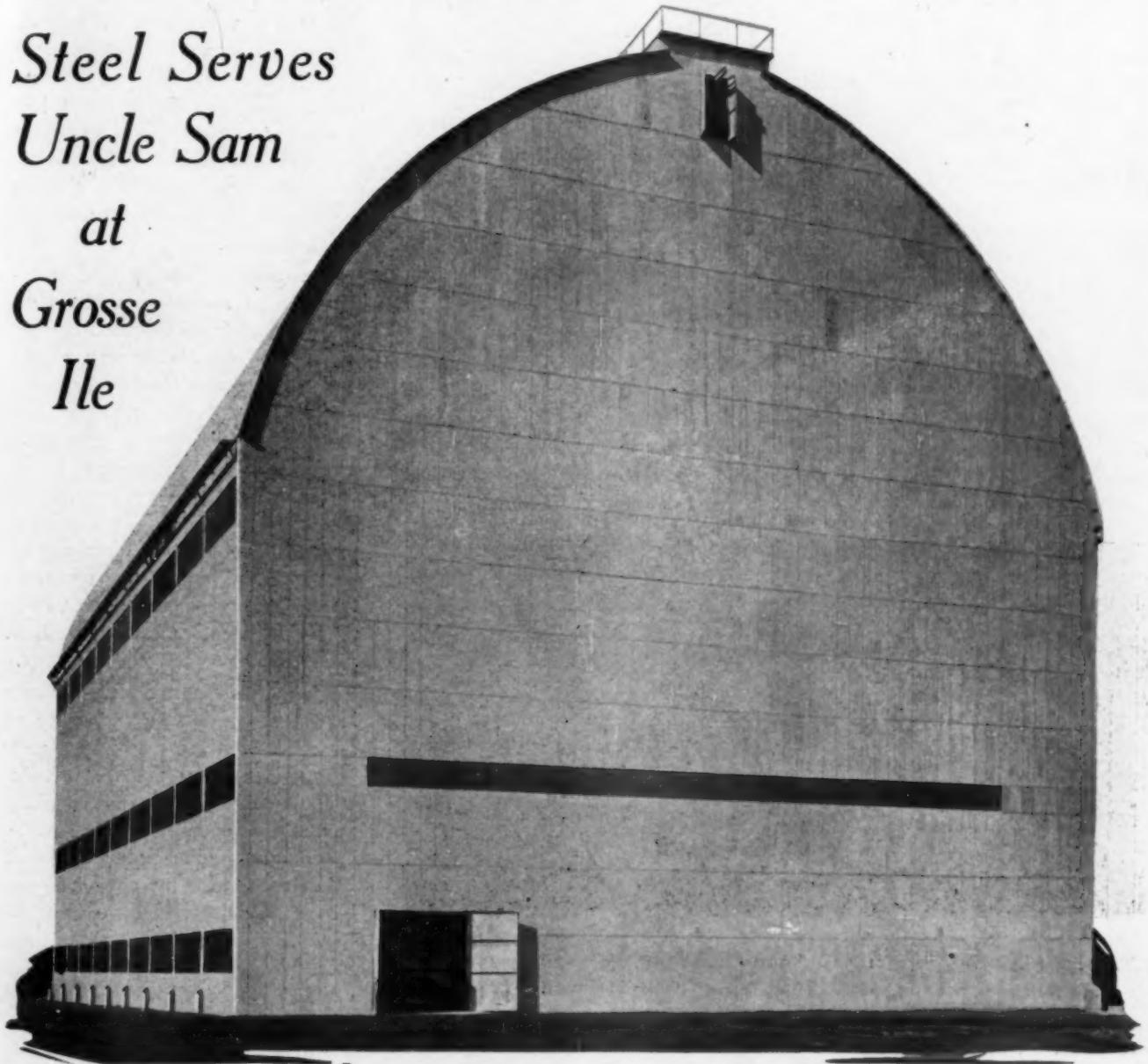


Vol. 95

CHICAGO, JUNE 30, 1928

No. 26

*Steel Serves
 Uncle Sam
 at
 Grosse
 Ile*



Giant Dirigible Hangar Constructed for the United States Government at Grosse Ile, Near Detroit, Michigan, in Which Inland Copper Alloy Sheets Had an Important Part

ONE of the most important innovations in the history of aviation is being undertaken at the present time by the United States government at Grosse Ile, near Detroit, Michigan, where the all-metal dirigible MC-2 is under construction. The new dirigible will have

a gas capacity of 200,000 cubic feet. It will be built entirely of metal, instead of a sheathing of fabric which hitherto has been used in dirigibles.

The ship is being constructed for the purpose of determining the possibilities and possible advantages of all-metal lighter than air craft. It

will provide practical tests of the principles of all-metal construction, and will enable aeronautic engineers to determine the relative advantages and disadvantages thereof.

But the object we in the sheet metal industry are chiefly interested in is not the dirigible itself but the

mode of housing which its construction has brought into existence. Before work on the dirigible itself was started the government had constructed a large hangar suitable for the housing of the dirigible when it shall have been completed. This hangar which is now erected is being used as a machine shop.

The frame of the structure is entirely of steel girders. Inland Copper Alloy steel sheets, manufactured

by the Inland Steel Company, were used for the covering. The accompanying illustration will show to what extent steel has come into its own on this particular job. The structure was erected by the Continental Bridge Company, Chicago.

The primary consideration in the housing of this dirigible is that the structure must be fireproof. And no material can be of greater service than metal in this respect.

steel industry would never reach any outstanding proportions or great success in this Miami valley, is forever silenced.

Just twenty-seven years ago on the 7th of February last, the first heat of steel was poured in the then single open hearth furnace of The American Rolling Mill Company.

It was a very small beginning represented by some three hundred employees and \$500,000 in invested capital. Its greatest strength was possibly represented in its great faith in human ability, in human dependability and ingenuity, and in the courage of its imagination and its convictions.

The melting, pouring, and transportation of a modern mixer ladle of hot metal from a point some ten miles south of Middletown to the steel plant at east side works is the direct result of the intelligent and effective cooperation of the three great forces of engineering, transportation, and industry, contributed by three separate and distinct institutions; The Koppers Company of Pittsburgh as engineers, constructors, and operators, the B. & O. Railroad representing transportation, and Armco representing industry.

There has been a blast furnace located at a point near the city of Hamilton for some twenty years. During that time many overtures for cooperation with our company in one way or another were made. Our answer had always been: "When we make any change in our blast furnace activities we want the new furnace right alongside our steel plant in Middletown so we can have the full advantage of the use of molten metal."

Industry must constantly strive for the elimination of every removable cost of production. Our cost development plans had reached a point where we were definitely investigating the advisability of building a blast furnace and coke plant in Middletown. It remained for Mr. Rust of the Koppers Company to show us how co-operation of two independent forces could best solve that problem at this location. You have today witnessed the answer.

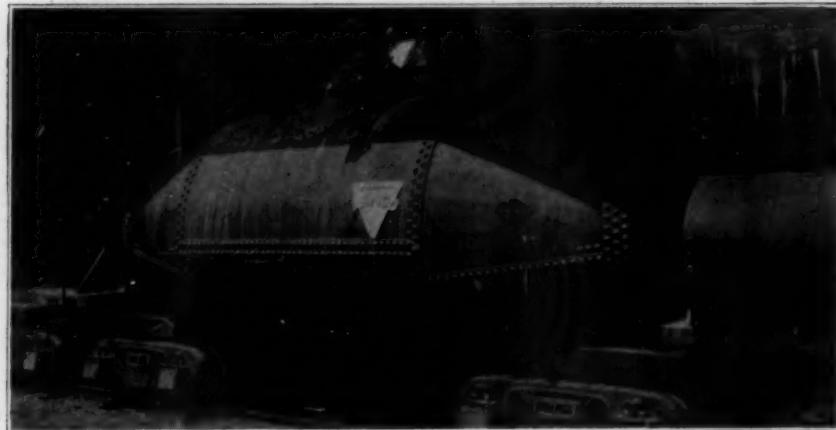
Armco Celebrates Important Event in Steel Making Industry, June 25

Movement of Molten Metal Across River Marks Important Development

AN IMPORTANT event in the steel industry took place at Middletown, Ohio, on June 25, 1928, when the inauguration of the movement of hot metal from the

so constructed as to keep the metal in a molten state for 48 hours.

One of the prominent speakers during the event was George M. Verity, President of the American



This huge ladle has been called a "land submarine." It will keep metal in a molten state forty-eight hours. When loaded the total weight is 325 tons.

blast furnace of the Hamilton Coke & Iron Company to the east side works of the open hearth furnaces of the American Rolling Mill Company.

In order to make this transfer of hot metal possible it was necessary for the Baltimore & Ohio railroad to construct a special bridge over the Miami river. A special ladle was also necessary and this built directly upon a car. Its capacity is 150 tons of molten metal, and it is

Rolling Mill Company, and his address is reproduced in part below:

Remarks of President Verity

We are gathered here today to celebrate an event, the forerunner of a new day in the great Miami valley, wherein the steel and iron industry is to be more completely entrenched in this locality than ever before and by the same token the argument advanced at various intervals during the past quarter century to the effect that the iron and

However, in the solution of that difficult problem still another great force was needed and that was transportation of a kind unknown in this part of the country and not heretofore exactly duplicated.

The creating of a system of transportation, including the building of a new bridge across the Miami river, which could quickly and safely move a short stocky railroad car designed as a container of hot metal, where the car, ladle, and the molten metal it might contain would together weigh 300 tons or more, the heaviest wheel load of any car moved in railroad transportation, was no small engineering and transportation problem.

Now, what does it all mean?

It means that the plants of the Middletown division of the American Rolling Mill Company are permanently entrenched in this locality, in the heart of this beautiful Miami valley. It means that the character and extent of its manufacturing facilities, its connections, and its cost of production will be such that it can successfully compete in the markets of the world in its chosen lines of activity.

Over and above all of that it means that business policies new and untried twenty-five years ago, policies that stood for a sounder, a better, a more advanced, a more humanitarian, and a more cooperative way of doing things, have stood the acid test of time and trial and remain today as a guarantee of continued progress.

The past fifty years of history of industry and transportation is full of pioneering adventure and of trail blazing.

When young America in the person of Charles A. Lindbergh made the first direct flight from New York through the air across the Atlantic to the famed capital of historic France, he was saluted by the President of that Republic with these words: "Young man you have pushed back the borders of the impossible." And so it has been, and is, with industry and transportation.

The twenty-seven years of history of The American Rolling Mill

Company is also full of pioneering. It seemed to be its task from the very beginning to adopt new policies, to develop new products, processes, and equipment, to enable it to meet the rapidly changing demands of civilization.

It is our hope that through the influence of this new stream of molten metal flowing through this beautiful valley from one plant to another, in the steel cars and over the steel rails made by this same industry, together with all of the adventures, accomplishments and influences of the past quarter century, that we and our good friends and associates, The Hamilton Coke and Iron Company, may also find "the secret of eternal youth" in the interest of all those we are organized to serve.

Platte Overton Opens Office as Consulting Engineer

Platte Overton, recently connected with the Herbert H. Davis Company, Inc., Chicago, has opened an office at 447 Monadnock Building, as a consulting engineer.

We believe that Mr. Overton will be a welcome addition to the warm-air industry. He is the first warm-air fan blast engineer to open an office of this kind.

Twelve years over the drafting board, designing and supervising some hundreds of successful fan blasts' jobs, warrants him in hanging out his shingle as a consulting engineer in this line.

Mr. Overton believes that the progressive warm-air installer who has a vision of the future in this type of work, will figure the larger jobs if he has a consulting engineer to assist him in the design and technicalities.

We feel that the larger dealers in the furnace line who feel that the fan blast warm air work will not warrant the overhead of a high salaried engineer, will avail themselves of this opportunity to obtain the service at a reasonable fee.

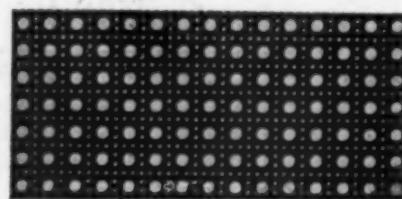
Mr. Overton is the author of the "National System of Hot Blast Heating," a text book for architects,

engineers and heating men, recently issued to the trade.

Attractive Grills and Perforated Metals Illustrated

Of interest to the trade is a new broadside which shows numerous styles of grilles and perforated metals manufactured by the Standard Stamping and Perforating Company, 4721 West 5th Avenue, Chicago, Illinois.

Some new and highly original designs are pictured which are made up in steel, bronze, copper, brass or aluminum. All standard sizes



The Grill

are available as well as special sizes to fit any shape or size of opening.

In the perforated metals all standard sizes of perforations or special sizes and shapes are obtainable and for all purposes in all metals.

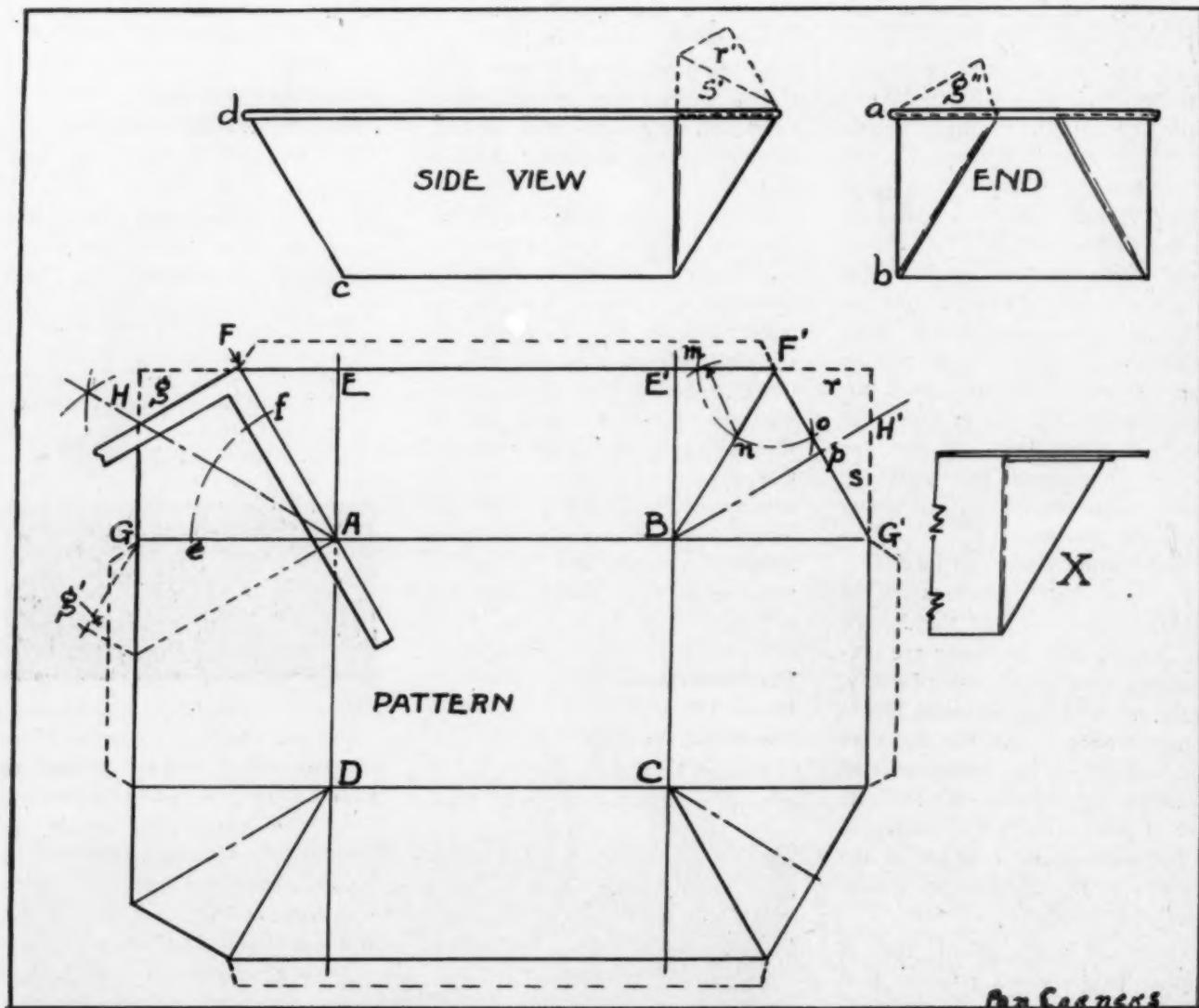
Some of the patterns shown are for screens for coal mines and quarries (shaker, cylindrical and conical) machinery guards, rock, ore and gravel screens, etc.

A copy of this broadside can be had by writing the Standard Stamping and Perforating Company, 4721 West 5th Avenue, Chicago, Illinois.

Pickett Hardware Company Gets Big Heating Contractor

The Pickett Hardware Company, Warren, Pennsylvania, was awarded two contracts in construction of a new reception building at the State Hospital at North Warren, at a meeting of the building committee of the board of trustees held at the hospital.

The Pickett Company secured the contract for heating both sections of the building with a total bid of \$56,885, and the plumbing contract, with a total of \$29,067.74.



Showing Construction of Pattern for Laying-Out of Pan Corners

Made in Answer to Inquiry from
Subscriber in McKeesport, Pennsylvania

By O. W. KOTHE, Principal St. Louis Technical Institute

RESPONDING to the inquiry of a reader of McKeesport, Pennsylvania, for pan corners, I want to say where the sides are straight, the ends flaring to about 60 deg. and the corners bent pan shape a good procedure would be as follows:

In the illustration we have the working drawing for it, showing the side and end elevation. In practice, we can lay the work out right

on the pattern, where A-B-C-D is the outline of bottom. Then A-E is the height of the side equal to a-b, and the end A-G is equal to c-d of side view. Next measure the flare as E-F, and E'-F', and draw lines A-F and B-F'.

Observe, this is the end bend line, so that A-F-F'-B will be a side elevation, and we see that A-F is equal in length to A-G; since these two edges must fit together. This gives

us the angle G-A-F for doubling over on the end. We, therefore, bisect this angle by means of arc e-f, and crossing arcs in point H, which enables drawing corner line A-H.

If we place a steel square in the position shown, to draw F-H square to F-A, we cut off the corner, g. This you can reason out by laying it over as the dotted position g' in pattern shows. The line H-G mere-

ly doubles back on the bend A-G and this leaves the triangle g' as shown. This is further shown in end elevation by g'' and indicates what must be cut off. That is really all that is necessary where the laps turn back on the ends.

But where the laps must turn back on the side of pan—then a little different treatment must be followed. Here the space G-H is transferred as G'-H' for drawing the center line B-H'. Next set your dividers to any radius just so it is a little smaller than F'-p, and strike the arc m-n-o. Next use n, as center and n-m as radius—mark the point o, on this arc. This allows drawing the miter cut line F'-p through intersection o, and then draw line p-G', which cuts away the corners r and s as shown.

You can also reason this out by bending the corner so the lines B-F' and B-G' meet, and then laying the corners around, so that you will have the double shape as at r'-s' of elevation to cut away. This will give the corner, and edges for wiring or lap edges as at X must be allowed extra, according to the size of wire, rod, or the amount of bend over a tank, or box, as in the case of sheet lead work.

SPOT NEWS

The Western Metal Products Co., manufacturers of metal furniture, etc., San Francisco, Cal., has moved from 367 Ninth Street to 1160 Bryant Street.

The sheet metal workers of Santa Barbara, California, have adopted the five-day week, being the last of the building trades unions of that city to go on that schedule.

H. O. Vold, of Waukon, Iowa, has established a sheet metal business in Osseo, Wisconsin.

The W. R. Ames Company, 450 Irwin Street, San Francisco, California, is now building a new factory at Hooper and Seventh Street, where their floor space will be doubled. This company makes sheet metal products.

The Ward Mail Box Company of Buchanan, Michigan, is moving

to LaPorte, Indiana, after operating in Buchanan for four years.

The Pressed Steel Engineering Company has been incorporated at 5736 Hastings Street, Detroit, Michigan, with a capital stock of \$50,000.

The C. C. James Roofing Company has been incorporated in Muskegon, Michigan, with a capital of \$50,000 to manufacture and deal in sheet metal roofing. Headquarters at 1301 Williams Street.

A. W. Powell, the plumber of Bandon, Oregon, has added the manufacture of medicine chests.

Charles A. Thieman has sold the Pacific Sheet Metal Works, Bremerton, Washington, to P. L. Thieman.

A. E. Philips, 122 Greenwich Street, New York, N. Y., is making \$100,000 sheet metal gas plant at Greenwood, South Carolina, at the present time.

The Grayson Heat Control, Inc., has been chartered in Linwood, California, with a capital of \$50,000, by J. H. Grayson and others.

B. O. Jessen has engaged in business at 1798 E. Jefferson Boulevard, Los Angeles, California, as B. O. Jessen Sheet Metal Works.

The Lakeland Sheet Metal Works, Inc., has been chartered in Lakeland, Florida, by G. Wallace Hall and others.

The Triangle Cornice & Roofing Co., 113 Victor Avenue, Highland Park, Michigan, has been incorporated with a capital stock of \$10,000.

Dan Schirman and W. J. MacKenzie have engaged in business as the Capitol Sheet Metal Works, in Salem, Oregon.

Rev. Clifford Lysen, pastor of Lutheran Church, Mashwauk, Minnesota, will let the contract soon for \$20,000 church heated with warm air heat.

The H. B. Ferraday Sheet Metal Works has contract for sheet metal work on the residence of Mable McCormick, 806 Washington Street, Waterloo, Iowa, and the Waterloo Metal & Manufacturing Company has secured the warm air

furnace contract for same building.

The Waterloo Metal and Manufacturing Company, corner Commercial and Thompson Streets, Waterloo, Iowa, has contracts for warm air heating plants for residences of T. R. Sawyer, Geo. Potter, W. E. Rachuy and Ivan Wilde, all in that city.

The Union Iron Works of California, 5125 Santa Fe Avenue, Los Angeles, California, has the contract for construction of corrugated iron warehouse in that city for Pacific Guano & Fertilizer Company.

Help Farnam Sheet Metal Works, Omaha, Nebraska

AMERICAN ARTISAN:

For the benefit of the Farnam Sheet Metal Works, Omaha, Nebraska, I want to say, there could be several reasons that would cause water to drop from the ice rack. The rack should be made of corrugated galvanized iron riveted on heavy strap iron legs to hold it up off the vent opening. It should also have 1-inch pitch in the width so as to drain good.

Unless it is a very large box one cold air vent right in the center, should be enough, and then have one or two return air vents close up to the top of ice chamber so that there will be free circulation.

Yours truly,

R. C. Bates
701 N. 14th Street
Murphysboro, Illinois.

Missouri Sheet Metal Men to Meet at Kansas City July 24 and 25

The Missouri Sheet Metal Contractors' Association will hold its annual convention in Kansas City, July 24 and 25. A letter sent out by the chairman of the Transportation Committee, F. T. Bokern, 217 Market Street, St. Louis, reads as follows:

"The State Association of the Missouri Sheet Metal Contractors will hold their Eighth Annual Convention in Kansas City, Missouri, July 24 and 25, 1928.

"Your Committee has selected the

Missouri Pacific Railroad for the Pilgrimage to Kansas City.

"We will leave Saint Louis Monday night at 10:10, July 23rd, arriving Kansas City Tuesday morning, 7:05 o'clock.

"Railroad fare—\$10.04 one way. Sleeper \$3.75 for lower berth; \$3.00 for upper berth, each way.

"We want as many as can to attend this convention. Let us show the State the strength of Saint Louis. Kindly write or phone Mr. Frank T. Bokern, 217 Market Street, whether or not you will attend this convention and go with us, July 23, 1928—10:10 p. m.

"Your prompt attention to this will greatly oblige the committee.

"Say yes—Show the Spirit of Saint Louis."

**Reduced Rates on
Air Mail Are Effective August 1**

It will cost only one-quarter as much to send the average business or social letter by air mail on and after August first as it does now, for on that date the rate will be reduced from ten cents a half ounce to five cents for the first ounce or fraction and ten cents for each succeeding ounce or fraction. This means that an ordinary letter may be sent anywhere in this country for five cents and that an air mail package which now requires \$2.00 postage may then be sent to any part of the country for \$1.05.

The regulations on air mail are simple. Any mailable matter (except perishable matter liable to damage by freezing) may be sent by air mail. Registered, insured and C. O. D. matter is carried by air mail as are packages not exceeding fifty pounds in weight and not exceeding 84 inches in length and girth combined. Special delivery stamps still further expedite delivery of domestic air mail.

Air mail may be deposited in any mail box, but sufficient time should be allowed for collection and transport to the Main Post Office in time for shipment to the air mail field. Distinctive air mail envelopes are desirable, but not compulsory, but

the words "Air Mail" or *Via Air Mail* must be clearly endorsed on the envelope or wrapper.

This new low rate effective August 1 holds out tremendous possibilities for the American business man. This reduction comes when the air mail companies are giving the most dependable service in their history. The man or woman using air mail for business or social correspondence has the benefits and connections of twenty-eight air mail routes over 12,457 miles, serving 62,000,000 people directly and millions more indirectly. Each twenty-four hours the mail planes fly 24,914 miles and their daily average mail load now exceeds three tons. Air mail averages more than 100 miles per hour and planes are flown night and day in fair or foul weather.

Speed is the essence of air mail service and the record of efficiency established by the air mail in the last ten years, during which time nearly 16,000,000 miles were flown and 302,000,000 letters carried, merits the patronage of every business man and woman.

It behoves every alert business man to instruct his mailing department to determine where and how time and money can be saved by use of air mail. Each day there is some striking instance of how air mail, which means speed, has been profitable to American business. The new rates effective August 1 should popularize this rapidly expanding method of modern transportation.



"Voightmann" Skylight.

From West Side Sheet Metal Works, Inc., 1011 Washburn Street, Scranton, Pennsylvania.

Kindly advise us who makes the "Voightmann" puttyless skylight.

Ans.—Voightmann and Company, 2543 West 22nd Street, Chicago.

Angle Iron Forming Rolls.

From Cordele Sheet Metal Works, Cordele, Georgia.

Where can we secure angle iron forming rolls?

Ans.—Peck, Stow and Wilcox Company, Southington, Connecticut; Interstate Machinery Company, 100 South Jefferson Street, Chicago; Joseph T. Ryerson and Son, 2558 West 16th Street, Chicago; Bertsch and Company, Cambridge City, Indiana; J. M. and L. A. Osborn Company, 1541 East 38th Street, Cleveland, Ohio.

"Round Oak" Furnace.

From The Collinsville Manufacturing Company, Inc., 1003-15 East Front Street, Fort Worth, Texas.

Can you tell us who makes the "Round Oak" furnace?

Ans.—The Beckwith Company, Dowagiac, Michigan.

Bronze Letters for Electric Signs.

From Otto Schuman, Wisconsin Rapids, Wisconsin.

Please tell me who makes bronze letters for electric signs.

Ans.—Friedley-Voshardt Company, 733 South Halsted Street, and George Steere, 434 South Dearborn Street; both of Chicago.

Cast Iron Smoke Pipe.

From S. Van Cleave, Trenton, Missouri.

Can you tell me who makes cast iron smoke pipe?

Ans.—Waterloo Register Company, Waterloo, Iowa.

Glass Letters for Electric Signs.

From Kyler Sheet Metal Works, 13th and Levee Street, Brownsville, Texas.

Where can I secure glass letters for electric signs?

Ans.—George Steere, 434 South Dearborn Street, Chicago.

Address of Ludowici-Celadon Company.

From C. P. Fischer, 316 East 4th Avenue, Amarillo, Texas.

Can you tell us where the Ludowici people, makers of terra cotta tile, are located?

Ans.—They are known as the Ludowici-Celadon Company, 104 South Michigan Avenue, Chicago.

Belmont Sheet Metal Works, Chicago, Building New Structure

The Belmont Sheet Metal Works, 2341 Belmont Avenue, Chicago, is building a 1-story plant at 2328 Nelson street. Regan Construction Company, 228 N. LaSalle Street, has general contract. H. R. Anderson is the manager.

By-Laws of National Sheet Metal Contractors' Association

Revised at Cleveland Convention

THE By-Laws Committee appointed to revise the present By-Laws in order to bring them up to date, and put them into a more comprehensive form, has re-written them because of the numerous changes required and submit the following changes for consideration at the next annual convention of the National Association Sheet Metal Contractors to be held at Cleveland, Ohio, May 22 to 25, 1928.

BY-LAWS OF THE NATIONAL ASSOCIATION OF SHEET METAL CONTRACTORS OF THE UNITED STATES

ARTICLE I

Membership

Section 1. Qualification for Membership. Any individual, firm or corporation engaged as an employer in one or more of the following building trades, namely, sheet metal work, warm air heating and ventilating, and roofing.

Section 2. Membership Through State Associations. Members located in a particular state may organize a State Association. State Associations may be organized by members located in one or more adjoining States where such organization first obtains the approval of the Board of Directors of this Association. Where State Associations are so organized membership in this Association shall be through the State Association. Membership in a State Association shall be through the Local, where such exists; but members residing in localities where no Local exists may affiliate with the State Association as individual members. All members of the State Association shall be members of this Association and shall pay their per capita tax as prescribed in the By-Laws of this Association.

Section 3. Membership Through Locals. Wherever possible, the members shall organize themselves into Local Associations, and where Locals are organized, membership in this Association shall be through the Local Association: Provided, where State Associations are organized, membership in this Association shall be through the State Association.

Section 4. Individual Membership. Any individual, firm or corporation eligible to membership in this Association under Section 1 of this Article residing in a locality where no Local exists may become individual members of this Association: Provided, where State Associations are organized membership in this Association shall be through the State Association.

ARTICLE II

Representation at Conventions

Section 1. State Associations shall be entitled to one delegate and one alternate for every five individual members in good standing or majority fraction thereof. The manner of selecting delegates shall be determined by the State Association.

Section 2. Local Associations shall be entitled to one delegate and one alternate for every five individual members in good standing or majority fraction thereof: Provided, that each Local Association shall be entitled to at least three delegates and three alternates.

Section 3. All delegates and all individual members of this Association shall have the right to vote in the National Convention.

Section 4. Any member of the National Association shall be eligible to any office or committee of this Association.

ARTICLE III

Officers

Section 1. The officers of this Association shall consist of a President, four Vice-Presidents, a Secretary, and Corresponding Secretary, a Treasurer, a Sergeant-at-Arms and nine Trustees. The officers and trustees shall constitute the Board of Directors. The officers, except the Secretary and the Trustees, shall be elected annually by ballot and shall hold office until the close of the annual convention next following the annual convention at which they were elected and until their successors are elected and qualified. Three Trustees shall be elected for a term of three years, three for a term of two years and three for a term of one year, and three each succeeding year thereafter for a term of three years. The Secretary shall be elected annually by the Board of Directors.

Section 2. The President shall preside at all meetings of this Association and of the Board of Directors, preserve order therein, and conduct the meetings in accordance with Robert's Rules of Parliamentary Law. The President shall notify both the Secretary and Treasurer 30 days prior to the annual convention to have a separate certified audit of their books and to have at least three copies of each audit delivered to the President or Financial Committee to be appointed by the President so that the Finance Committee will be able to report at the annual convention. He shall appoint all committees unless otherwise directed by the Association and generally perform such duties as his position demands.

Section 3. The first, second, third and fourth Vice-Presidents, in their order, shall, respectively, have the authority and perform the duties of the President in the event of his absence, disability or death.

Section 4. The Secretary shall keep a correct record of all transactions, votes and other business of the Association in books provided for that purpose, notify the Chairmen of committees of any subject that may be referred to their committees, keep accurate account of the moneys of the Association, attest all orders drawn against the same, and communicate to the individual members of Local and State Associations such information and advices for their general welfare and protection as he shall from time to time receive. He shall notify the

individual members and Local and State Associations of such actions of the Board of Directors and other information necessary to be communicated to them and perform such other duties as may be required of him by the Association. He shall turn over all books, moneys and other property of the Association at the expiration of his term of office to his successor in office. He shall be required to make written reports at each annual convention of all moneys received, the standing of each State and Local Association as well as individual memberships and arrearages of same and of the increase or decrease in the membership of this Association. He shall be remunerated for his services by such salary as the Board of Directors from time to time may determine. He shall give a Surety Bond in the sum of not less than \$5,000.00 or such an amount as the Board of Directors may determine from time to time, conditioned for the faithful performance of his duties, the cost of which shall be paid by the Association.

Section 5. The Treasurer shall attend all meetings of the Association and of the Board of Directors, receive all moneys paid in by the Secretary, and give his receipt therefor, and pay all orders signed by the President and attested by the Secretary. He shall be required to make a written report at the annual convention of all moneys received, bills paid and balance on hand, and to turn over all books, moneys and other property of the Association at the expiration of his term of office to his successor. He shall give a Surety Bond in the sum of \$5,000.00 conditioned for the faithful performance of his duties, the cost of which shall be paid by the Association.

Section 6. It shall be the duty of the Sergeant-at-Arms, at the annual convention, to guard the door, admit only those entitled, announcing them on entering, and, when required to do so by the presiding officer, he shall assist in keeping order. A majority of the Board of Directors shall constitute a quorum. A member may vote by mail, but no proxy vote will be recognized.

Section 7. The Board of Directors shall have general supervision and charge of the National Association and of all property, of whatsoever kind, belonging to the National Association. The Board of Directors shall have power to remove an officer of this Association for failure to perform properly his duties as an officer of this Association or for any action unbecoming an officer or member of this Association. The person so accused, however, shall have due hearing, in person, or by counsel, or both. The Directors shall meet semi-annually at such time and place as may be agreed upon or upon call of the President or petition of five Directors. The Board of Directors shall elect an editor of the publication of this Association who shall act as such under the direction of the Publication Committee and who shall keep a separate account of the

finances of this magazine. Such editor shall be remunerated for his services by such salary as the Board of Directors may from time to time determine. The Board of Directors shall each year determine the name and number of the standing committees; each standing committee shall consist of not less than three members who shall be appointed by the President by and with the consent and approval of the Board of Directors.

Section 8. The President shall appoint an Auditing Committee to consist of five members who shall be in attendance the day before the National Convention to audit the books of the Secretary and the Treasurer and give a written report to such National Convention.

Section 9. The Chairman of every committee shall first obtain the consent of the President and Secretary (in the absence of one the consent of the other shall be sufficient) before calling a meeting of any committee involving traveling or other expenses.

Section 10. The Chairman shall report the work of the committee in writing to the President before the date of the next Annual Convention, and when ordered by the President, the Chairman of such committee shall attend the National Convention, and submit therat a report of the work done by the committee during the year. Should the Chairman be unable to attend the convention, he shall designate a member of the committee to attend and submit the committee's report.

Section 11. The term of office of all committees shall expire at the close of the National Convention following their appointment.

ARTICLE IV

Nomination of Officers

Section 1. At the afternoon session of the first day of the annual convention a Nominating Committee, to consist of five members, who shall prepare a list of names for the various offices to be filled by election, shall be chosen in the following manner: Three shall be elected by ballot on nomination from the floor. Of the candidates nominated the three receiving the highest number of votes shall be declared elected. The remaining two members of this Nominating Committee shall be appointed by the President.

Section 2. The Nominating Committee shall report the list of names selected for the various offices to be filled by election annually during either the morning or afternoon session of the second day of the annual convention. After the report has been submitted the names of the candidates selected shall be posted in the Convention Hall. Additional nominations may be made in writing, signed by not less than four members of the Convention. No vote for any member for an office shall be counted unless his name has been posted in the Convention Hall as a nominee for such office during or before the morning session of the third day of the Annual Convention.

ARTICLE V

Election of Officers

Section 1. The annual election of officers shall be held not later than the third day of the annual convention and

the newly elected officers shall take office at the close of the last session of the annual convention.

ARTICLE VI

Vacancies in Office

Section 1. The Board of Directors shall fill the vacancy in office created by the death, removal, or resignation of any officer of this Association until the next election.

ARTICLE VII

Conventions

Section 1. The annual convention of this Association shall be held at such time and place as the National Convention may determine. In case the National Convention does not select the time or place the Board of Directors shall have authority to make such election.

Section 2. The Annual Convention shall be in session not less than three (3) days.

Section 3. Special meetings may be called by the President, the Board of Directors or upon the application of fifteen Local Associations, provided that no other business be transacted except that for which the meeting was called.

ARTICLE VIII

Traveling Expenses

Section 1. Actual traveling expenses of the President, Secretary and Treasurer shall be paid when attending the National Conventions. No expense shall be allowed the other officers and Trustees for such attendance. Expenses of the officers and Trustees may be paid when attending special meetings of the Board of Directors held between conventions.

Section 2. The expenses of the representatives from the State or Local Associations to the National Conventions shall be borne by the State or Local Association from which the delegates are elected unless otherwise agreed upon by the State or Local Association and the representatives so elected.

ARTICLE IX

Credential Committee

Section 1. The Credential Committee shall be appointed by the President prior to the opening of a National Convention. The Credential Committee shall examine the credentials of each delegate and report to the convention at the earliest possible moment.

ARTICLE X

State and Local Associations

Section 1. Every State and Local Association shall be subordinate to the National Association and must comply with its By-Laws and with orders made in accordance with its By-Laws.

Section 2. As soon as a Local Association is admitted to the National Association the Secretary of the Local Association shall notify the Secretary of the National Association and forward to him a list of the names and addresses of the officers and members of such Local Association.

Section 3. In a city or town one or more Local Associations may be organized by one or more of the classes

of those eligible to membership in this Association as provided for in Article I, Section 1. Except as herein provided only one Local Association will be recognized from any city or town.

ARTICLE XI

Penalties

Section 1. In the event any member fails to obey or comply with any of the By-Laws, resolutions, or provisions of this Association, he may be fined, suspended or expelled from membership as shall be determined by the Board of Directors. No member shall be fined, suspended or expelled unless the charges be submitted in writing, a copy of which shall be furnished to the accused, and the accused shall be given an opportunity to be heard in person or by counsel, or both.

ARTICLE XII

Revenue

Section 1. The per capita tax shall be \$12.00 per annum for all classes of membership which shall become due on the 1st of January of each year. Members of State Associations shall pay their per capita tax to the State Secretary who shall forward the same to the National Secretary. Local Associations, where there are no State Associations, and individual members of the National Association, shall pay their per capita tax direct to the National Secretary.

ARTICLE XIII

Quorum

Section 1. A quorum at the National Convention shall consist of delegates from fifteen Local Associations.

ARTICLE XIV

Order of Business

Section 1. The Board of Directors shall determine the order of business to be followed at each National Convention in conformity with the By-Laws of the National Association.

ARTICLE XV

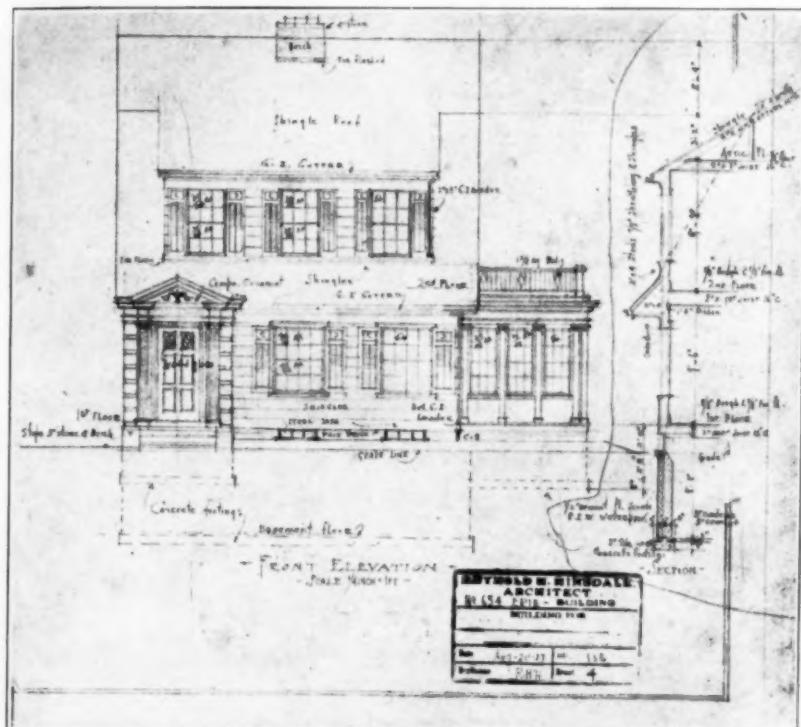
Amendments

Section 1. These By-Laws may be amended or amendments submitted modified at any annual convention of this Association by a two-thirds vote of the members present entitled to vote. Amendments may be offered by any member, Local or State Association; but any amendments proposed must be in writing and submitted to the National Secretary not later than sixty days prior to the annual convention. A copy of the proposed amendments shall be mailed by the National Secretary to each member as soon as possible after the receipt thereof and the same shall be published in the publication of the National Association prior to the annual convention. These By-Laws may be suspended by the unanimous vote of the members present at any annual convention who are entitled to vote.

Submitted by:

J. E. MERRICK, Chairman,
GEORGE I. RAY,
PAUL L. BIERSACH,
By-Laws Committee.

Sheet Metal Estimating

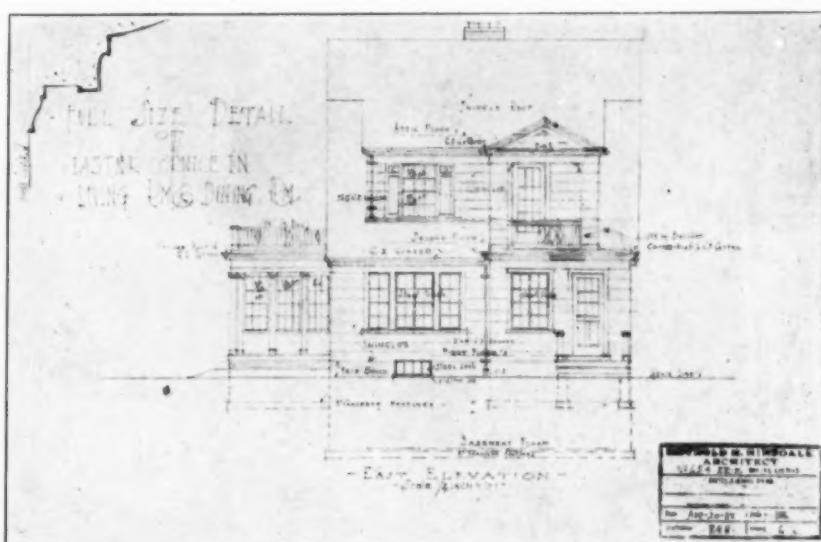


Photostat of Blue Print Used by Sheet Metal Contractors in Taking Off Quantity of Metal Required

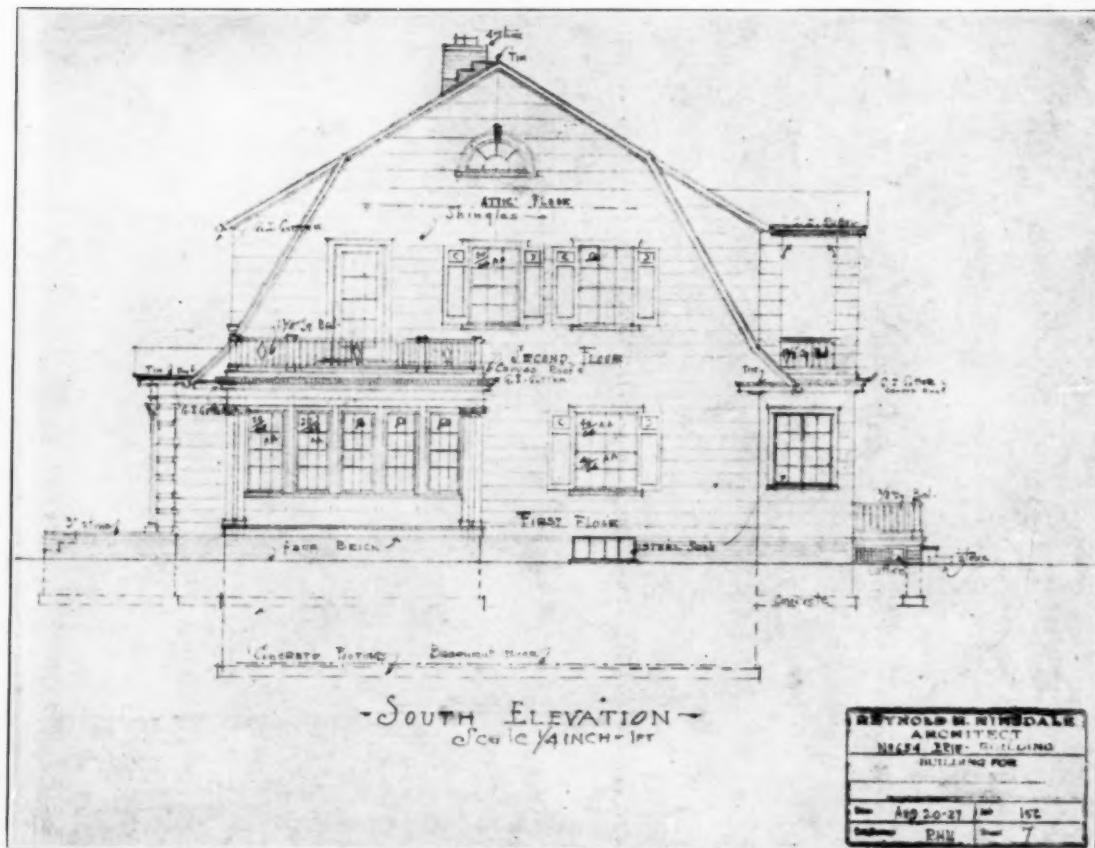
at
Cleveland
Convention
Prize Winner
Only \$3 Higher
Than Official
Estimate

THERE are a lot of sheet metal contractors in business who, if they make any money at all on the work they take, it is mere accident or chance; this for the reason that they do not have a systematic way of listing the items of material and labor that go into the job. It should not be a difficult matter when figuring a job to list the items of materials in a manner making it easy for anyone to see just what these items are, their individual cost and the proportionate share of the labor cost which they bear to the entire job.

No doubt there are contractors who will say that such an elaborate listing of items is far too complicated and entirely unnecessary. To this objection the conscientious contractor will reply that the main object is to satisfy the customer. There probably is no more conclu-



Blue Print Reading Was an Essential

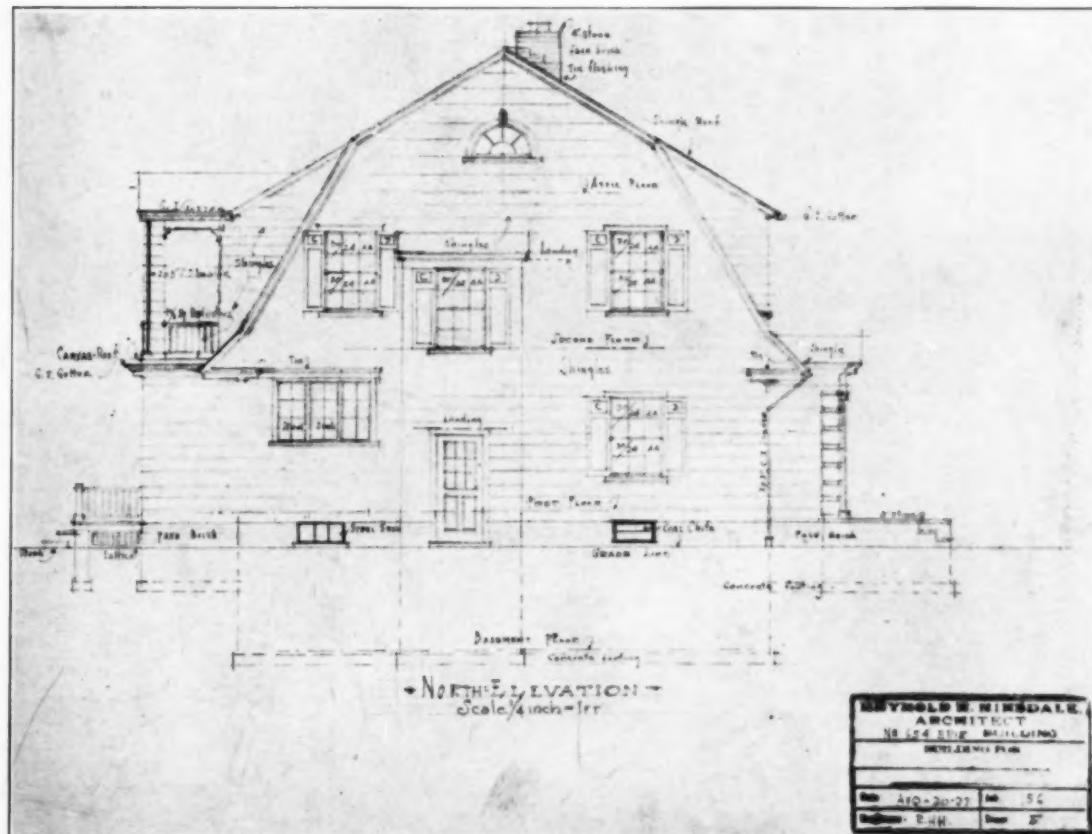


Quantity
of
Materials
Was
Closely
Checked

*Official Estimate
Prepared by William
Feiten of Sheet Metal
Job Figured at
Convention*

	Items Mat'l	Unit Cost Mat'l	Labor per Unit	Cost Mat'l	Cost Labor
Gutter—5" Hanging No. 26..... 20-20-5-14-5-5-14-6-6-9-9-15	114	\$0.07½	\$.20	\$ 8.55	\$22.80
Cast Iron Hangers.....	38	.05	..	1.90	...
2x3 Cond. Pipe, No. 26 gage..... 5-5-5-11-2	28	.06½	.25	1.82	7.00
3x4 Cond. Pipe..... 10-10	20	.08½	.25	1.70	5.00
2x3 Cond. Elbows..... 3-3-3-2-2	13	.14½	..	1.89	...
3x4 Cond. Elbows, 2-2.....	4	.24	..	.96	...
2x3 Strainers—4-1	5	.08½	..	.43	...
3-4 Strainers—2	2	.12	..	.24	...
Pipe Hooks—2-3	8	.12	..	.96	...
Pipe Hooks—3-4	4	.13	..	.52	...
Shingle Flashing—5x7	62	.00½	.09	.31	1.00
13-13-15-15-6					
Step Flashing—6-4	10	..	.40	.33	4.00
Apron for Front Chimney—7"	4	..	.20	.22	.80
Apron for Dormer	39	..	.15	1.21	5.85
20-11-8					
Saddle—2' 6" x 4	10 sqs.	..	.15	.55	1.50
Canvas Deck—12 oz. Double Fill... 15'x9'=135 13'x6' 6"=85	220 sqs.	.04½	.10	9.90	22.00
Paint and Nails.....	220 sqs.	.05	..	11.00	...
Flashing for Canvas—2"-3"..... 8-5-5-15-8	41	..	.10	.94	4.10
Cornice Returns—10"-2"—1"	27	.07	.10	1.89	2.70
7-9-3-3-3-3					
Tin Deck Front Entrance..... 4x2' 3"	9 sqs.	..	.21	.61	1.89
20" Valley, 10-15.....	25	..	.10	2.42	2.50
Miscellaneous Material				5.00	
Total Material				\$ 53.35	\$81.14
Total Labor				\$ 81.14	
Overhead, 33½ per cent.....				\$134.49	
				44.83	
Total Cost				\$179.32	
Profit, 10 per cent.....				17.93	
					\$196.25

Wide Variation Found in Prices on Estimates Turned In



sive way of convincing an owner that you know your stuff and that you are giving him a square deal than by making it easy for him to check up on the individual items that are going into the job. If he has any complaint to make, it is easy for you both to place your finger on the seat of misunderstanding and correct the deficiency with the least possible friction.

Then as a matter of record for yourself and your own protection it is a good idea to list the items.

One of the features of the recent National Association of Sheet Metal Contractors' convention at Cleveland was the presentation of a set of blue prints to the contractors in attendance, from which they were asked to submit a bid on the sheet metal work. An official estimate was drawn up by William E. Feiten, 2252 East 93rd Street, Cleveland, which was to be used as a guide in determining the winner of the contest. The official estimate as prepared by Mr. Feiten called for \$196.25. The winner of the prize was Albert J. Wagner, 3762 North Clark Street, Chicago, who

turned in a figure of \$199.00.

The official estimate as prepared by Mr. Feiten, showing the number of items, the unit cost of the material, the unit charge made for labor, the total material cost and the total labor cost, together with the overhead and profit, is shown on opposite page.

The winner, Albert J. Wagner, did not go into as an elaborate listing of the items as did Mr. Feiten. Instead Mr. Wagner has included his labor and overhead charges in the items themselves, which of course does not allow them to be as readily checked as in the official case. However, the results derived by Mr. Wagner prove that he knows his labor and overhead costs, and so long as these items are included in the bid, he is not going to lose money on the job. The method employed by Mr. Wagner is shown in the following table:

115 ft. 5-in. hanging gutter	\$ 67.50
65 ft. down spouting and 8	
elbows	25.00
1 chimney flashed	9.00
60 ft. shingle tins	4.80
4 gable returns	10.00

30 ft. apron flashing.....	12.00
28 ft. valley.....	8.40
175 sq. ft. canvas decking.	35.00
Merchandise	9.00
<hr/>	
Total	\$180.70
Profit 10 per cent.....	18.07
<hr/>	

The accompanying plans are those of the house from which the sheet metal contractors bidding on the job took the material and labor surveys. Sheet metal contractors who are desirous of testing their own knowledge and ability to take off correctly the material required for this job can easily do so by following the listing of Mr. Feiten. Any items or phases of the whole matter that are not clear as they are herewith stated we will be very glad to have the contractor write us for further information.

If you have photographs of some interesting sheet metal jobs, send them to us for reproduction in AMERICAN ARTISAN. An ordinary Kodak picture will answer the purpose if clear.

A Sign Typical of the Business Brings in the Business

People remember objects but they forget names. They will remember a sign which clearly typifies your business or which is unusual in some aspect, but they are likely to

above the ground. It is constructed of block letters 18 inches high and two inches deep which are wired on to half inch wrought iron pipes. It spells out "sheet metal works." Above this sign is a small weather vane on which is lettered the word "ace." Fortunately the wind is such



Illustrating One Contractor's Method of Advertising His Business

forget the name under which you operate. At least this is the way C. W. Hugy of the Ace Sheet Metal Works, San Jose, California, figures.

For this reason he had a special sign constructed of nickel zinc. The sign itself, as shown in the picture, is thirty feet long and twelve feet

that the vane almost always points directly into the shop.

But the important thing, according to Hugy, is not what the letters of this sign spell, but rather the impression the sign as a whole gives. The nickel zinc is accepted by the public as tin and, therefore, signifies to them the type of work

carried on in the shop.

"The brightness of the sign and the glitter spell more than the letters," Hugy explained. "After all," he continued, "business grows and expands because of satisfactory service rendered. Then one customer tells another and so on. If you have a sign on your shop which can easily be described and which typifies your work when customers direct their friends to you they are pretty apt to find you. A sign which can't be missed is a real business getter."

Louisville Ladies' Auxiliary Gives Bingo-Luncheon to Miss Carolyn Fischer

One of the most attractive parties given by the Louisville Ladies' Auxiliary was a bingo-luncheon party given at the Egyptian tea room, Louisville, Saturday afternoon, June 2nd, 1928, in honor of our secretary, Miss Carolyn Fischer. The tables were decorated very artistically with yellow roses and the favors were Kewpie powder dolls dressed in pale green tarleton frocks. Miss Fischer was presented with a "Honeymoon Set of Silver" by the Auxiliary.

Miss Fischer was married to Thomas Furlong on Wednesday morning, June 6th, and after their wedding trip will be at home on Brownsboro Road, Louisville, Kentucky.

How Blotters Are Primed to Sell Zinc

One of the most definite selling helps we have seen in some time is a series of blotters advertising Horse Head zinc. Each blotter carries the actual photograph of a building roofed with this zinc.

Then follow a few words of argument in favor of that product and a space for the dealers' name.

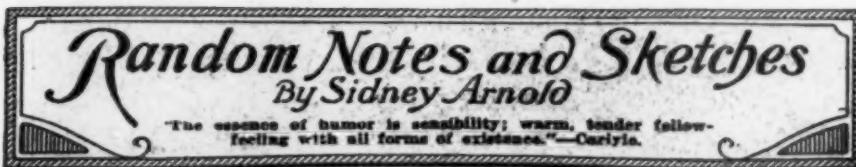
Several sets of these blotters were sent to Horse Head dealers this spring for use by them as envelope stuffers in sending out monthly statements, etc. The attractive colors, the realistic photographs, the short but effective selling talk and the fact that the deal-



An Envelope Stuffer Which Has Produced Good Results in Selling Zinc Sheets

er's name was printed conspicuously, all made these blotters highly

appreciated. And then they are good blotters too.



I never knew I had so many friends until I got into trouble the other day on account of a wager that I foolishly made not to cut my whiskers until some of those fellows who were in arrears on their subscription renewals sent them in. In consequence I was denied the privilege of entering my home. But I surely was surprised to see how quickly these boys responded when they found out my predicament. I want to take this opportunity to thank Wilson H. Fisher, 212 Parkway, Niles, Michigan, for the razor blade which he so thoughtfully enclosed in the letter containing his check for renewal. "Use the blade and go home to Mrs. Arnold," said Mr. Fisher, and you can rest assured that that is exactly what I did. There were a lot of others who, although they didn't send razor blades, did send their checks along, for which I want to thank them one and all. It makes one happy to feel that his trust has not been misplaced.

* * *

A Personal Interest Leads to Sales

Harry Stanyer, Dallas, Texas, secretary of the Texas Sheet Metal Contractors' Association, will get a big kick out of this one. During the war the officers of a negro regiment were endeavoring to convince their men that they should take out insurance. Their most earnest exhortations availed them nothing. Finally they called in an intelligent top sergeant who seemed to have some influence among his colored brethren and turned the job over to him. The men were assembled and the top sergeant addressed them. "Cullud folks, we is here to discuss what's gwine to become of yo' all. Uncle Sam has done offered you each \$10,000 worth ob insurance. Right now yo' niggers ain't wuth nothin'—some ob you is wuth lessen

that. When yo' all takes out \$10,000 wuth ob insurance with Uncle Sam each and ebery one of you is wuth that much to yo' country. Now, I axes you niggers, if you is wuth \$10,000 to Uncle Sam and Uncle Sam loses \$10,000 ebery time any of yo' gets killed, who's he gwine to send into the front line trenches—them as has, or them as hasn't? Form single file—an' don't crowd—hey, you niggers back dere, quit yo' shovin'."

* * *

Cause for Complaint

Here's one of the reasons why grocers lose weight and get gray haired. The other day Mrs. Sachs, bride of Jack Sachs, junior member of the Chicago Sheet Metal & Roofing Company, 231 West Superior Street, Chicago, entered one of Chi-



Mrs. Jack Sachs Complaining About Tough Flour

cago's grocery dispensing emporiums patronized by the elite of the south side and said to the grocer rather haughtily: "I wish to complain about that flour you sold me. It was tough."

"Tough, ma'am?" asked the grocer.

"Yes, tough. I made pie with it, and my husband could hardly eat it."

* * *

I took a little journey out to Chicago Heights, Illinois, on Tuesday of this week and had a very enjoyable visit at the business place of

John Maier & Company, 1640 North Chicago Road. Mr. Maier has a splendid organization there and turns some mighty nice work. While there I also learned that Mrs. Maier has been quite ill, which I was very sorry to learn. She is now on the road to recovery again, however, for which we are all glad. Mr. Maier says he has some mighty nice contracts lined for the summer.

* * *

Limited

"Should evening dresses ever be worn to bridge parties?"

"No. In playing cards it is only necessary to show your hand."

* * *

Taming the Wild

"Hell, old man, where have you been?"

"Just got back from a camping trip."

"Roughing it, eh?"

"You bet. Why, one day our portable dynamo went on the bum and we had no hot water, heat, electric lights, ice or radio for almost two hours."

* * *

A colored agent was summoned before the Insurance Commissioner.

"Don't you know," said the Commissioner, "that you can't sell life insurance without a State license?"

"Boss," said the darkey, "you suah said a mouful. I knowed I couldn't sell it, but ah didn't know the reason."

* * *

"Poor ole Bill! 'E's so short-sighted 'e's working 'imself to death."

"Wot's 'is short-sight got to do with it?"

"Well, 'e can't see when the boss ain't looking, so 'e 'as to keep on shoveling all the time."

* * *

The Barred Bard

Little Willie—I don't want to go to that damn school any more!

Father—Why, Willie, where did you ever learn such a bad word?

Well, William Shakespeare uses words like that.

You've got to stop runnin' around with him, then.



Group of Members of the Western Warm Air Furnace and Supply Association Who Participated in the Final Meeting of That Association. Seated Left to Right—E. C. Carter, A. B. Meston, J. Harvey Manny, John B. Fehlig. Standing, Front Row, Left to Right—L. G. Colburn, Fred Heads, Herb Symonds, R. W. Blanchard, E. C. Cummings, Mr. Bowman, R. W. Menk. Rear Row, Left to Right—John A. McElwain, Tom Pearson, Mr. Ross, F. E. Mehrings, Earl Nesbit.

Western Warm Air Association Goes Out of Existence With Big Party

Board of Directors' Recommendation to Merge With National Accepted

THE final meeting of the Western Warm Air Furnace & Supply Association was held in the Rose room of the Hotel Sherman Friday morning, June 22, 1928, with President J. Harvey Manny in the chair. It will be remembered that a proposition was presented at the April meeting of the National Warm Air Heating Association to consolidate the Midland Furnace Club, the Northwestern Furnace Builders' Association, the Western Warm Air Furnace & Supply Association and the National Warm Air Heating Association. Steps

were taken in the way of changing the by-laws of the National Warm Air Heating Association so as to make it possible to merge these other organizations into the national.

At the meeting last Friday of the Western association the final steps were taken to wind up the affairs of that organization and to merge it with the national. Although the Western association as such ceases to exist, it will continue to function in a broader way in the national organization. This consolidation was thought best in order to merge re-

sources and to eliminate insofar as possible all duplicate effort. The plan of the Better Business Committee is not yet fully prepared, but as soon as it is available for publication readers of *AMERICAN ARTISAN* will see that it offers a definite solution to many of the present ills of the warm air heating industry.

The address of the President, given by J. Harvey Manny, consisted for the most part in revealing some of the many outstanding accomplishments of the organization during its existence, together with the manner of its formation and a

naming of some of the men who were active in the association, President Manny's address follows:

Address of President J. Harvey Manny

Members of the Western Warm Air Furnace and Supply Association and gentlemen of the press:

We are assembled here today to wind up the affairs of this organization and to celebrate the new and greater opportunities the members of this association now have to help in the upbuilding of this great and important industry. To the members of the Western Warm Air Furnace and Supply Association, who have long and faithfully given their best efforts to this cause, is due the highest credit. The past achievements of this organization are a matter of record, and will go down through the history of this industry as the turning point in the tide toward a better understanding of the problems in our business. As the caissons of a great skyscraper are sunk through soil and subsoil to solid rock, so do the past accomplishments of our association represent the firm foundation upon which the new structure of this industry is to be built.

Early in the year 1914, Vernon H. Parks assumed the management of the Meyer Furnace & Supply Company of Kansas City. As you all know, old Vern was somewhat of an idealist. He felt that something should be done to promote good fellowship among his competitors, that some plan should be adopted by the manufacturers and jobbers whereby information covering proper installation of furnaces could be given to the dealer. To this end he organized in Kansas City in the year 1915 what was known as the Triplex Club. After four years of work, the members of the Triplex Club came to the conclusion that the scope of their work should be broadened, and on January 17th, 1919, a meeting was held during the convention of the Western Hardware and Implement Dealers, and a temporary organization of the Western Warm Air Furnace and Supply Association was

effected. A second meeting was held in Omaha on February 5th, 1919, at which time officers were elected, and the permanent organization began to function.

Advent of Harry Hussie Upon Scene

Most of you know the reason for the call of the second meeting in Omaha. As is usual in most industries, there is some dominating personality to whom all men go for

It is the province of advertising, and in that is its greatest effectiveness, to seek out the leaders in a community, awaken their emotions, fire their imagination, and thus bring into action that word of mouth advertising, the only kind that money cannot buy. That is the way that the public mind is "made" for any product, — that is the way it is being made for sheet metal. And that is one reason why capturing the public mind for a commodity takes time. One reason why time is one of the most important of all the elements involved. And in connection with sheet metal, it is important to observe that where time is an element in demonstrating satisfactory or superior service, the longer it takes to get word-of-mouth advertising at work. — J. J. Rockwell.

advice and counsel. Fortunately, we had such a man in the furnace industry. When Omaha was but a small town, a man by the name of John Hussie came to that city and opened a small hardware and tinshop. Mr. Hussie had two sons, Maurice and Harry. The father brought Maurice up in the hardware end of the business, and his success in that line brought him to the presidency for two years of the National Retail Hardware Association.

To Harry was given the tinshop and furnace end of the business. As a real student of his business, Harry naturally was much alive to the benefits of association work. He climbed through the various committees and offices of the National Association of Sheet Metal Contractors, and acted as president of that association for two years. He was instrumental in the organization of the Federal Furnace League, which was the first coöperative attempt by furnace manufacturers to learn something about their own business. Harry is known throughout the furnace world as the father of the National Warm Air Heating Association. He seemed to be the only man at that time who could bring the furnace manufacturers together. Was it any wonder, then, that the organizers of the Western Association should go to him for counsel?

John H. Hussie immediately saw the possibilities before an organization of this character and willingly volunteered to help in any way possible. The wisdom of the organizers of this association is best shown in the fact that they at once drafted Mr. Hussie into the office of secretary at their first election of officers, a position which he occupied until his death.

John B. Fehlig Holds Position of Trust

I want to speak at this time of three other men among the original organizers of the Western Association. As a rule, there are usually two offices in every organization that are more or less permanent. The office of secretary is one that constitutes considerable labor. The secretary is the diplomatic agency through which the organization is guided over the troubled waters. To fill this great need in our organization came John H. Hussie.

The office of treasurer is one of confidence and trust, and I again call your attention to the wisdom of the original organizers of this association. We have with us today the man who was first elected to this office. As positive proof of the confidence and trust this organiza-

tion has placed in him, he has from year to year continuously been re-elected treasurer. In the years that have passed no other name has ever been presented to the members for election to this office. I know that I voice the hope of the entire membership of this association that the work of our treasurer, John B. Fehlig, may be perpetuated in the greater opportunities that are now presented to us.

Fred Nesbit and Herb Symonds Get Honors

It was perhaps the irony of fate that that grand old warrior, Fred L. Nesbit, should have been one of the original organizers. Original seems to fit our Fred perfectly. Many of the great achievements of this association found their origin in the fighting spirit of this great man. A born leader of infinite wisdom, he oft times counselled us against hasty action. A deep thinker, who carefully weighed all problems. An invincible fighter for that which he thought was right, and an unconquerable opponent to anything he considered wrong. To his leadership in this organization in no small measure is due the firm foundation upon which this association rests today.

We have another man with us today who was among the organizers of this association. One of the cardinal essentials of every organization is loyalty. Without loyalty no association can prosper. The very essence of loyalty is typified in our old standby, Herb Symonds. The roll call of the meetings of this association will show that Herb has been present at every meeting of this association since its organization. On a recent visit to California he cut his trip short one week in order that he might be with us when the roll was called.

Who among us could question the success of any organization founded by such men as these?

The records of the association show the following past presidents, all of whom have played no small part in the success of this association:

1919—Shirley Percival, who resigned shortly after his election. Anton Ohnemus was elected to fill the vacancy.
 1920—Fred L. Nesbit.
 1921—E. I. Dodd.
 1922—R. W. Menk.
 1923—E. L. Jaynes.
 1924—H. W. Symonds.
 1925—B. A. Quick.
 1926—D. E. Cummings.

And for the past year and one-half, the present incumbent.

Uncle George Harms and Rudy Menk Have Active Part

Another loyal member of this association who has worked with us faithfully through the years is our old friend, George Harms. They call him Uncle George in Peoria, but he is the grandfather of all furnace association work. His activity on the Standard Code Committee, the Standard Ordinance Committee, and as chairman of the Furnace Rating Committee have done much to help in the building of these standards.

Credit must be given to R. W. Menk for his work on the Standard Code Committee and especially for the Standard Uniform Contract Blank, which is now being used extensively by the trade.

I want to call your attention now to the slogan used by this organization since its birth:

An organization devoted to the upbuilding of the warm air heating industry.

Since its inception, this association has attempted to live up to this slogan.

E. I. Dodd

At the third meeting of the association, held in Peoria in June, 1920, E. I. Dodd of Sioux City pleaded for some sort of legislation that would put the furnace business on a better basis. In a survey of fifty homes which he made, only four were found to have had proper installations. The first Standard Code Committee was appointed at this meeting. We all know the results of the work of this committee.

In December, 1921, the Western

Association adopted the Code Committee report, and a resolution passed asking the National Warm Air Heating and Ventilating Association and other associations to endorse the code. Shortly after this a joint committee was organized, on which sat members from the Western Association, the National Heating and Ventilating Association, the National Association of Sheet Metal Contractors, and the American Society of Heating and Ventilating Engineers. On May 15th, 1922, the revised code, as adopted by the Joint Code Committee, was presented to us and adopted by our association. Shortly after this the code was in general distribution.

Adoption of parts of this code into ordinances in various cities proved the necessity of revision of the code into ordinance form, and in 1924 a committee was appointed by the National Association to do this work. For some reason the committee failed to function, however, and at a meeting of the Western Association held in May, 1926, a committee from our association was appointed. The first meeting of this committee was held the evening of their appointment. A second meeting was held in Louisville during the convention of the Master Sheet Metal Contractors, and a final two-day meeting in Kansas City. Within six weeks after this committee was appointed their work was completed. To the original code was added the now well-known *Table A*. As proof of the careful work of this committee, *Table A*, as well as all the rest of the ordinance, almost word for word, has been adopted by the National Association, after the recommendation of the Joint Code Committee.

First to Recognize Merits of Gas-Fired Furnace

This association was the first to recognize the possibilities of heating homes with gas-fired furnaces. As early as 1923, Mr. Valentine, an engineer representing the Peoples Gas Light & Coke Company of Chicago, addressed our meeting, giving us the comparative costs of heating

homes with coal, oil, and gas. This was perhaps the first complete explanation of gas warm air heating ever offered to the furnace trade. Mr. Valentine's address before this association was reported in the trade papers and over one thousand reprints of this talk have been distributed to the trade. Our secretary reports seven requests for these reprints in the last six months.

The first complete discussion in our industry of chimney troubles and their detection by use of the draft gauge came through the Western Association. The talk on this subject, which was first offered to this association, received national attention, and the speaker on this subject uncovered by this organization has since talked to many groups of furnace men, with the result that there is today a more general appreciation of heating troubles which arise as a result of faulty flues.

Roy C. Walker Given His Due

To the Western Association goes credit for the first real Dealer Educational effort ever staged in this industry. At our mid-year meeting held in Peoria a year ago, we were successful in bringing together the greatest gathering of warm air dealers and supply men which has ever taken place. To our faithful and hard working member, Roy Walker, goes the credit for this great meeting.

In 1922 a committee of this organization was appointed to consider the question of rating furnaces. The chairman of this committee, George Harms, was also made a member of the National Association Committee, and the work of these committees has now given us a standard by which all furnaces can be rated.

And so we might go on, reciting the many accomplishments of the Western Association. We do not mention these achievements with any thought of bragging or boasting. We all know that the good work is but just started.

The National Association have now offered to us a greater oppor-

tunity for our effort. If we have been successful in accomplishing any good to our industry in the past, let us all now plunge in with renewed enthusiasm to the work ahead of us. Most of our members are now members of the National Association. We have arranged for a place in the National Association for every manufacturer, jobber, and dealer in the furnace business, no matter how large or how small his business may be. It is our duty now to get behind this great movement with our money, our work, and our moral support. The president of the National Association has seen fit to put two members of this association on the Better Business Committee, thus recognizing the good work that we have accomplished.

Let us take the old fighting spirit of the Western into the National. The will and the determination to accomplish that which we seek for the good of our industry must continue, and the accumulative effort of all of these associations now merged into one great National Association must finally turn the balance of the scale in our favor, and warm air heating will at last stand upon the high pinnacle which is its right and which it so justly deserves.

* * *

P. S.—In writing this informal residual history of the activities of the Western Warm Air Furnace and Supply Association's activities, President Manny was merely trying to call attention to some of the more outstanding activities of the association. In doing this, of course, it was necessary to mention the names of some of the men who have held offices in the organization, but it was fully realized that there are many men who have had a great deal to do in helping to bring success to the organization whose names are not mentioned in the article. It was not the intention of President Manny to slight or belittle the efforts of any of these men by this omission. Full credit and appreciation to all is implied.

A buffet luncheon was served in

the Rose room to those present. In the afternoon the entire delegation was taken to the Cubs' ball park on Chicago's north side.

Dinner was served to the attending delegates in the English Room of the College Inn, and the party wound up with a trip to the theater in the evening all at the expense of the association. Members in good standing had their railroad fare paid to and from the meeting by the association and refunds in dues are to be prorated among members in good standing.

Among those present at the meeting who spoke in favor of the merging of the Western with the National were A. B. Meston, R. W. Blanchard, Tom Pearson, J. Harvey Manny, Earl Nesbit, Mr. Bowman, E. C. Cumings, R. W. Menk, F. E. Mehrings, Mr. Ross, L. G. Colburn, and Herb Symonds. John B. Fehlig, Treasurer, was the only one who opposed the consolidation, saying that he could not be expected to give up a good job without a struggle.

At the close of the meeting Mr. Fehlig read some of the original letters that led to the formation of the organization, all of which were very interesting, and highly prized by Mr. Fehlig.

Chicago Furnace Men Who Are Opposed to New Chicago Ordinance Organize

At a meeting, held at 5212 South Halsted Street, Chicago, June 22, and attended by approximately fifty warm air furnace installers operating on the south side of Chicago, an organization known as the Master Furnace and Sheet Metal Association was brought into existence. The purpose of this new organization, as expressed during the meeting, is to obtain either an amendment or the complete repeal of the Standard Furnace Code Ordinance passed by the Chicago City Council. The furnace men feel that the fees which are required by the present ordinance work a hardship on the small operators.

Officers were elected as follows: President, C. L. Willey, C. L.

Willey & Company, 1215 West 69th Street.

First Vice-President, John R. Plaehn, 5641 South Fairfield Avenue.

Second Vice-President, P. D. Griffin, 5148 South Halstead Street.

Secretary, S. J. Koehler, Porter Hardware Company, 4236 Cottage Grove Avenue.

Treasurer, John D. Serson, Serson Hardware Company, 109 East 31st Street.

Two committees were appointed, one to confer with Local Union 73 and the other to confer with a similar body of representatives of the Greater Chicago Warm Air Heating Association, the purpose being to find out whether any common meeting ground can be secured to alleviate a situation (real or imaginary) which the south side boys feel is working a hardship upon them. Membership in the new organization is to be drawn from the entire Cook County.

Want Some Good Sales Talk? Write for This Booklet on Humidity

Humidity and humidifier products are assuming an ever greater importance in the realm of warm air heating. The Automatic Humidifier Company, Cedar Falls, Iowa, have recently prepared a booklet, entitled "Your Money's Worth," which takes up the subject of humidity and humidifiers quite extensively.

Warm air furnace installers who are suffering from a lack of ideas to present to warm air furnace prospects should by all means get this booklet. It will give him ideas for sales talk that will get under the skin of the most obdurate furnace prospect.

In addition to describing the acute needs of humidity in connection with the heating plant, the booklet also describes in detail the automatic drip humidifier that is manufactured by the company. A thorough perusal of the entire booklet will require not more than 30 to 45 minutes, but it will be found to be one of the most profitable hours spent by any warm air furnace in-

staller. Write for a copy of this booklet now.

Greater Chicago Warm Air Association to Advertise Modern Heat

The Greater Chicago Warm Air Heating Association held its regular bi-monthly meeting at the Hotel Sherman, Chicago, Monday evening, June 18, with President L. M. Burt in the chair.

The association is at the present time working out a sign for use on buildings. This sign will carry the words, "Modern Heat Installed for Comfort, Health and Economy by dealer's name, certified by the Greater Chicago Warm Air Heating Association." The sign will be in color and the words "Modern Heat and Health" will be in large block letters that can be seen from a long distance. These signs will be sold to the members of the association for use on buildings in which warm air heating systems are being installed.

Several other matters of importance to the furnace installers in Chicago were also discussed.

The next meeting of the association which would ordinarily be July 2, but due to the fact that a great many of the members will be away on vacations at this time, it was decided to pass the next meeting and meeting again on July 16.

A Few Sales Hints That Will Produce Big Business

Dry air is the cause of rough skin. The ladies often complain of chapped hands during the winter months while the heating plant is in operation. Many dollars are spent for cold creams, hand lotions and numerous other remedies because of rough skin. If you will sell the prospect on the idea of keeping the home up to 50 per cent humidity you can assure her there will be no necessity to spend money for skin doctoring; excessive dryness to the skin is the cause of many ailments.

Sell her on the idea that if she wants soft, smooth, pliable hair, get plenty of moisture in the home, be-

cause dry air causes your hair to become brittle, unruly, and hard to manage.

Sell the householder on the idea that the natural way for instant, restful, sound sleep is to inhale pure moist air. If he finds it difficult to go to sleep at night, or if he tires easily during the day, try keeping the home at 50 per cent humidity. It will give an all night's sleep and all day's comfort. When you sleep peacefully all night, morning finds you a new person, fresh, bright and youthful in looks and spirit. Doctors recommend pure moist air.

To enjoy the luxury of soft, smooth skin, moist air is necessary because it is what nature provides. Women's hands when in and out water and in a continuous dry, warm air soon become rough and chapped. Youth and health are priceless gifts; protect them now by guarding against dry air, the enemy of health. These are good sales ideas for furnace men.

Show them how it is a faithful servant that makes their time their own, and now they are free to go wherever they please and know that the faithful automatic humidifier is working continuously keeping the air in the home in a moist, healthy and sanitary condition.

F. M. Borden, Pres. United Stove Repair, Philadelphia, Dies

F. M. Borden, President of the United Stove Repair Company, Philadelphia, Pennsylvania, died Saturday, June 16. Mr. Borden was well known in both the warm air heating and stove industries and his death is a distinct loss to those industries.

Richsto Metal Trim Company, Aurora, Illinois, Incorporated

The Richsto Metal Trim Co., 678 Douglas Avenue, Aurora, Illinois, has been incorporated with \$65,000 capital and 1300 shares no par value to manufacture metal trim of all kinds, by Walter H. Eckert, Thomas Leeming and William U. Bardwell.

Steel Market Uncertain Over Price

*Sheet Orders Improve—Raw Materials Ease—
Tin Market Breaks to New Low Point*

PASSIVE resistance of consumers of heavy finished steel to the advanced 1.90 cents, Pittsburgh, price for the third quarter gives evidence of turning into active opposition. Coupled with the vacillation of most producers in initiating contracting and the sentimental effect of weakness in pig iron, scrap, coke and semifinished material, this development further shrouds the steel price structure in uncertainty.

Some Selling Done at 1.85c

In some districts contracts for heavy steel for next quarter have been closed at 1.85 cents, Pittsburgh, and there are suggestions of pressure upon this level, which has held through most of the expiring quarter. Preferred buyers still are able to do better than 1.85 cents.

Automotive and Building Industries Brisk

Meanwhile, actual consumption is in sharp contrast to the price situation. Another week of heavy building steel awards reinforces continued seasonally strong demand from the automotive and farm implement industries. From the small manufacturing trade comes a steady flow of orders, neutralizing somewhat the disappointing requirements from the railroads and the oil country. Final figures will show the half year now closing to be a record one in steel production and, because consumers' stock are negligible, it will also prove a record one in consumption.

Specifications for sheets have spurted sufficiently to enable Mahoning valley mills to put on 15 mills this week, making 113 out of 127 independent units active, an operating rate not surpassed this year. Orders at Pittsburgh are slightly in excess of current production but the mills prefer lengthening their backlog slightly to putting on additional mills.

Further stiff competition in galvanized has brought mill prices be-

low 3.50 cents. Tonnage buyers have done 1.90 cents on black although some mills maintain a 2.00 cent minimum. On black sheets 2.60 cents is done and on full finished 4.00 cents.

Steel corporation subsidiaries are operating at 76 per cent, identical with last week, but independent mills at 69.5 per cent are a point under a week ago. The entire industry is now operating at about 72.5 per cent. Chicago steelmaking operations have declined several points to 80 per cent, while Pittsburgh holds at 70 to 75 per cent and Buffalo at 86. Many mills will close July 3 for the rest of the week.

Pig Iron

An inactive pig iron market at Pittsburgh is enlivened by occasional transactions such as the purchase of 2500 tons of basic iron from a valley steelworks at \$15.75, valley. One or two valley merchant producers adhere to \$16, valley, and a Pennsylvania steelworks on the same freight rate to Pittsburgh as from the valley now quotes \$16.50, Johnstown. The latter quotes \$17 to \$17.25 on bessemer. Valley makers are naming \$17, valley, taking small quantities. On No. 2 foundry \$16.75, valley, now is the top price, with one furnace quietly liquidating at \$16.50 now.

At Chicago fewer large inquiries are before the pig iron market, but several important buyers are considering their third quarter and last half needs. The recent weakness in basic iron in the East is believed to be reflected in some hesitancy on the part of melters in this district, although \$18, base, Chicago furnace, is steady. More third quarter tonnage has been placed than at the similar time a year ago, despite the absence of a well defined quarter's buying movement.

Copper

Domestic and export business has been light lately, after a period in

which export buying held up though users in this country had become well satisfied. Needs are well covered for July but an occasional inquiry, domestic and export, still comes in, and is not always readily filled. August also is well covered. Users still are making pressure for shipments as rapidly as possible.

Tin

The price fell to 45.62½ cents, perhaps a shade less on one or two small sales, and then recovered but remained in an uncertain trend. Prices have fallen about 4 cents this month to the lowest in four years. Supplies still are coming out freely and on some days lately even after large buying by users, prices have immediately sagged still lower.

Zinc

Prime western has remained entirely unchanged, with June at 6.15 cents, East St. Louis, and July ranging up to 6.20 cents. Light buying has been done for early shipment but not a great deal for July. The ore market is steady, at \$40 a ton. High grade metal is unchanged and moving well.

Lead

Buying has been light, and mostly for prompt shipment. Prices are steady.

Solder

Chicago warehouse prices on solder are as follows: Warranted 50-50, \$31.00; Commercial 45-55, \$28.00; plumbers', \$25.00, all per 100 pounds.

Old Metals

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$15.75 to \$16.25; old iron axles, \$23.50 to \$24.00; steel springs, \$16.00 to \$16.50; No. 1 wrought iron, \$11.25 to \$11.75; No. 1 cast, \$12.75 to \$13.25; all per net tons. Prices on non-ferrous metals are quoted as follows, per pound: Light copper, 9½ cents; zinc, 3½ cents; cast aluminum, 12½ cents.

Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN is the only publication containing Western Metal, Furnace Supply and Hardware prices corrected weekly

METALS

PIG IRON

Chicago Fdy.,	
No. 2	\$18.00
Southern Fdy. No. 2	21.51
Lake Superior Charcoal	27.94
Malleable	12.00

FIRST QUALITY BRIGHT TIN PLATES

IC	20x28	112 sheets	825 10
IX	20x28	29 60	
IXX	20x28	56 sheets	16 20
IXXX	20x28		17.55
XXXX	20x28		18.95

TERNE PLATES

IC	20x28, 40-lb.	112 sheets	\$25.00
IX	20x28,	29 60	
IC	20x28, 25-lb.	112 sheets	21.15
IX	20x28, 25-lb.	112 sheets	23.85
IC	20x28, 20-lb.	112 sheets	19.65
IV	20x28, 20-lb.	112 sheets	22.05
IC	20x28, 15-lb.	112 sheets	18.05

"ARMCO" INGOT IRON PLATES

No. 8 ga. up to and including	
1/4 in.—100 lbs.	\$4.55

COKE PLATES

Cokes, 80 lbs., base, 20x28	\$12.60
Cokes, 90 lbs., base, 20x28	12.80
Cokes, 100 lbs., base, 20x28	14.00
Cokes, 107 lbs., base, IC	
20x28	14.30
Cokes, 125 lbs., base, IX	16.40
Cokes, 155 lbs., base, 56 sheets	9.20
Cokes, 175 lbs., base, 56 sheets	10.05
Cokes, 195 lbs., base, 56 sheets	10.90

BLUE ANNEALED SHEETS

Base 10 ga.	per 100 lbs.	\$2.25
"Armco" 10 ga.	per 100 lbs.	4.99

ONE PASS COLD ROLLED BLACK

No. 18-30	per 100 lbs.	\$2.75
No. 22	per 100 lbs.	3.00
No. 24	per 100 lbs.	2.80
No. 26	per 100 lbs.	4.05
No. 27	per 100 lbs.	4.10
No. 28	per 100 lbs.	4.20
No. 29	per 100 lbs.	4.25
No. 30	per 100 lbs.	4.45

"ARMCO" GALVANIZED

"Armco" 24	per 100 lbs.	\$6.15
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GALVANIZED

No. 16	per 100 lbs.	\$4.20
No. 18	per 100 lbs.	4.45
No. 20	per 100 lbs.	4.60
No. 22	per 100 lbs.	4.65
No. 24	per 100 lbs.	3.65
No. 26	per 100 lbs.	5.05
No. 27	per 100 lbs.	5.15
No. 28	per 100 lbs.	5.20
No. 30	per 100 lbs.	5.70

BAR SOLDER

Warranted	
50-50	per 100 lbs. \$31.00

Commercial	
45-55	per 100 lbs. 28.00

ZINC

In Slabs		\$8.50
----------	--	--------

SHEET ZINC

Cask Lots (600 lbs.)		\$10.75
Sheet Lots		11.75

BRASS

Sheets, Chicago base		18 1/4 c
Mill base		18 1/4 c
Tubing, brazed base		27 1/4 c
Wire, base		18 1/4 c
Rods, base		16 1/4 c

COPPER

Sheets, Chicago base		24 1/4 c
Mill base		23 1/4 c
Tubing, seamless base		26 1/4 c
Wire, No. 9, B & S Ga.		19 1/4 c
Wire, No. 10, B & S Ga.		19 1/4 c
Wire, No. 1, B & S Ga.		20 1/4 c
Wire, No. 3, B & S Ga. and heavier		19 c

LEAD

American Pig		\$7.30
Bar		8.30
Pig Tin	per 100 lbs.	55.00
Bar Tin	per 100 lbs.	56.00

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

ASBESTOS

Paper up to 1/16	6c per lb.
Roll board	5 1/2 c per lb.
Mill board 2/32 to 1/4	6c per lb.

Corrugated Paper (250 sq. ft. to roll) \$6.00 per roll

BRUSHES

Furnace Pipe Cleaning

Bristle, with handle, each \$0.75

Fine Cleaning

Steel only, each 1.25

BURRS

Copper Burrs only

40-2 1/4 %

CEMENT, FURNACE

American Seal

.5-lb. cans, net 8.45

American Seal, 10-lb. cans, net 22

American Seal, 35-lb. cans, net 22.25

Pecora per 100 lbs. 7.50

No. 18-30 per 100 lbs. 8.75

No. 22 per 100 lbs. 9.00

No. 24 per 100 lbs. 2.80

No. 26 per 100 lbs. 4.05

No. 27 per 100 lbs. 4.10

No. 28 per 100 lbs. 4.20

No. 29 per 100 lbs. 4.25

No. 30 per 100 lbs. 4.45

No. 16 per 100 lbs. 34.20

No. 18 per 100 lbs. 4.45

No. 20 per 100 lbs. 4.60

No. 22 per 100 lbs. 4.65

No. 24 per 100 lbs. 3.65

No. 26 per 100 lbs. 5.05

No. 27 per 100 lbs. 5.15

No. 28 per 100 lbs. 5.20

No. 30 per 100 lbs. 5.70

No. 16 per 100 lbs. 34.20

No. 18 per 100 lbs. 4.45

No. 20 per 100 lbs. 4.60

No. 22 per 100 lbs. 4.65

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And STAY ON



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Can't Split—Can't Come Off
Insures Safety with Economy

Patented April 24, 1923
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Let Us Send You a Sample Shur-Grip

Hyro Manufacturing Co., Inc.
204 Varick St. NEW YORK

ADVERTISERS' INDEX

The dash (—) indicates that the advertisement runs on a regular schedule but does not appear in this issue.

A		L		Markets—Continued from Page 194	
Aeolus-Dickinson Co.	—	Lamneck & Co., W. E.	—	NETTING, POULTRY	RIDGE ROLL
Agricola Furnace Co.	—	Lamson & Sessions Co., The	—	Galvanized before weaving	Galv. Plain Ridge Roll, b'dd. 75-10-5%
Akrat Ventilators, Inc.	201	Langenberg Mfg. Co.	—	Galvanized after weaving	Galv. Plain Ridge Roll, crated. 75-10-5%
American Brass Co.	—	La Salle Machine Works	—	Globe Finials for Ridge Roll.	Globe Finials for Ridge Roll. 50%
American Foundry & Furnace Co.	—	Lennox Furnace Co.	—		
American Furnace Co.	—	Linde Air Products Co.	—		
Armeo Distributors Assn. of America	—	Lupton's Sons Co., David	—		
B		M		PASTE	
Banner Mahoning Furnace Co.	—	Marshalltown Mfg. Co.	—	Asbestos Dry Paste:	SCREWS
Barnes Metal Products Co.	—	May-Feibeger Co.	169	200-lb. Barrel	Sheet Metal
Beh & Co.	—	Meyer & Bro. Co. F.	167	100-lb. barrel	7, $\frac{1}{4} \times \frac{1}{4}$, per gross
Berger Bros. Co.	199	Meyer Furnace Co., The	—	35-lb. pail	No. 18, $\frac{1}{4} \times \frac{1}{4}$, per gross
B. & F. Mfg. Co.	197	Milwaukee Corr. Co., Back Cover	—	10-lb. bag	No. 16, $\frac{1}{4} \times \frac{1}{4}$, per gross
Berger Co., L. D.	199	Moncrief Furnace Co.	—	5-lb. bag	No. 14, $\frac{1}{4} \times \frac{1}{4}$, per gross
Bertsch & Co.	199	Mt. Vernon Furn. & Mfg. Co.	—	2 $\frac{1}{2}$ -lb. cartons	No. 12
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Buckeye Products Co.	—	N			
Burgess Soldering Furnace Co.	—	National Regulator Co.	—	POKERS, FURNACE	SHEARS, TINNERS & MACHINISTS'
Burton Co., W. J.	197	New Jersey Zinc Sales Co.	—	Each	Viking
		The	Front Cover		\$22.00
C		O		POKERS, STOVE	LENNOX THROATLESS
Calkins & Pearce	—	Osborn Co., The J. M. & L. A.	—	Nickel Plated, coll. handles, per doz.	No. 18
Chicago Solder Co.	—	Oxweld Acetylene Co.	173	W't Steel, str't or bent, per doz.	Shear blades
Cleveland Castings Pattern Co.	171				(f. o. b. Marshalltown, Iowa)
Chicago Metal Mfg. Co.	197				
Connors Paint Co., Wm.	171				
Copper & Brass Research Association	—	Q		PIPE	
		Quick Meal Stove Co.	—	Conductor	
		Quincy Pattern Co.	171	Cor. Rd., Plain Rd., or Sq.	
D		R			
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Dieckmann Co., Ferdinand	—	Robinson Co., A. H.	—	Crated and nested (all gauges)	Viking
Diener Mfg. Co., Geo. W.	—	Rybolt Heater Co.	168	Crated and not nested (all gauges)	\$22.00
Dreis & Krump Mfg. Co.	197	Ryerson & Sons, Inc., Jos. T.	199	75-2 $\frac{1}{4}$ %	LENNOX THROATLESS
E		S			No. 18
Eaglesfield Ventilator Co.	—	Sheet Steel Trade Ex. Comm.	—		Shear blades
Eiermann, Wm.	—	Stearns Register Co., The	—		(f. o. b. Marshalltown, Iowa)
F		Standard Code Computing Rule Co.	—		
Fanner Mfg. Co.	—	Standard Furn. & Supply Co.	—		
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Forest City - Walworth Run Fdy. Co.	—	Stover Mfg. & Engine Co.	—		
Fort Shelby Hotel	—	Sturtevant Co.	—		
Friedley-Voshardt Co.	—	Success Heater Mfg. Co.	—		
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		Technical Products Co.	—		
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		Tuttle & Bailey Mfg. Co.	—		
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Inland Steel Co.	—	Waterman-Waterbury Co.	—		
Interstate Machinery Co.	—	Western Steel Products Co.	—		
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Kernchen Co.	202	Whitney Mfg. Co., W. A.	—		
Kirk-Latty Co.	171	Williamson Heater Co.	—		
		Wise Furnace Co.	—		
		Wonder Gas Appliance Co.	—		
L		Register Faces—Cast and Steel		WRINGERS	
		Japanned, Bronzed and Plated, 4x6 to 14x14	40%	No. 790, Guarantee	...each \$5.10
		Large Register Faces—Cast, 14x14 to 33x42	60%	No. 779, Bicycle	...each 4.70
		Large Register Faces—Steel, 14x14 to 31x42	65%	No. 670, Domestic	...each 4.35
		Adjustable Ceiling Ventilators	40%	No. 110, Brighton	...each 3.70
				No. 750, Guarantee	...each 5.10
				No. 740, Bicycle	...each 4.70
				No. 21, Pioneer	...each 3.40
				No. 2, Superb	...each 3.65
M		Register Faces—Cast and Steel			
		Japanned, Bronzed and Plated, 4x6 to 14x14	40%		
		Large Register Faces—Cast, 14x14 to 33x42	60%		
		Large Register Faces—Steel, 14x14 to 31x42	65%		
N		Register Faces—Cast and Steel			
		Japanned, Bronzed and Plated, 4x6 to 14x14	40%		
		Large Register Faces—Cast, 14x14 to 33x42	60%		
		Large Register Faces—Steel, 14x14 to 31x42	65%		
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		Japanned, Bronzed and Plated, 4x6 to 14x14	40%		
		Large Register Faces—Cast, 14x14 to 33x42	60%		
		Large Register Faces—Steel, 14x14 to 31x42	65%		
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		Large Register Faces—Steel, 14x14 to 31x42	65%		
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		Large Register Faces—Steel, 14x14 to 31x42	65%		
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		Japanned, Bronzed and Plated, 4x6 to 14x14	40%		
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		Large Register Faces—Steel, 14x14 to 31x42	65%		
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		Large Register Faces—Steel, 14x14 to 31x42	65%		
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		Large Register Faces—Steel, 14x14 to 31x42	65%		
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		Large Register Faces—Cast, 14x14 to 33x42	60%		
		Large Register Faces—Steel, 14x14 to 31x42	65%		
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		Japanned, Bronzed and Plated, 4x6 to 14x14	40%		
		Large Register Faces—Cast, 14x14 to 33x42	60%		
		Large Register Faces—Steel, 14x14 to 31x42	65%		
X		Register Faces—Cast and Steel			
		Japanned, Bronzed and Plated, 4x6 to 14x14	40%		
		Large Register Faces—Cast, 14x14 to 33x42	60%		
		Large Register Faces—Steel, 14x14 to 31x42	65%		
Y		Register Faces—Cast and Steel			
		Japanned, Bronzed and Plated, 4x6 to 14x14	40%		
		Large Register Faces—Cast, 14x14 to 33x42	60%		
		Large Register Faces—Steel, 14x14 to 31x42	65%		
Z		Register Faces—Cast and Steel			
		Japanned, Bronzed and Plated, 4x6 to 14x14	40%		
		Large Register Faces—Cast, 14x14 to 33x42	60%		
		Large Register Faces—Steel, 14x14 to 31x42	65%		

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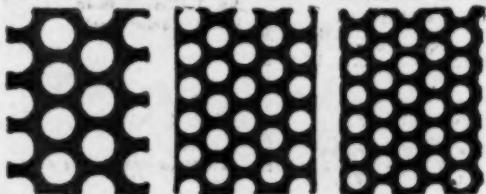
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CHICAGO STEEL SLITTING SHEAR

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Capacity 10 gauge sheets
Any Length or Width
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Weight 22 pounds

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F. O. B. Chicago

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The weight of the ventilator body is now carried on a concave thrust bearing nested in the apex of the conical body. This bearing turns upon the pivot point of the stationary center spindle.

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Auer Register Co., Cleveland, Ohio

American Wood Register Co., Plymouth, Ind.

Milwaukee Corrugating Co., Mill, Ch'go, La Crosse, Kan. City

Fences.
American Steel & Wire Co., Chicago, Ill.

Fittings—Conductor.
Barnes Metal Products Co., Chicago, Ill.

Milwaukee Corrugating Co., Mill, Ch'go, La Crosse, Kan. City

Fittings.
Chicago Metal Mfg. Co., Chicago, Ill.

Milwaukee Corrugating Co., Mill, Ch'go, La Crosse, Kan. City

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Buckeye Products Co., The Cincinnati, Ohio

Connors Paint Mfg. Co., Wm., Troy, N. Y.

Milwaukee Corrugating Co., Mill, Ch'go, La Crosse, Kan. City

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Williamson Heater Co., Cincinnati, Ohio

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Furnace Regulators.
National Regulator Co., Chicago, Ill.

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Milwaukee Corrugating Co., Milwaukee, Wis.

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Calkins & Pearce, Columbus, O.

Musiller Furnace Co., L. J., Milwaukee, Wis.

Furnaces—Warm Air.
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Brilliant Furnace Co., Brillion, Wis.

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Fox Furnace Co., Elyria, Ohio

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Homer Furnace Co., Coldwater, Mich.

Lamneck Co., W. E., Columbus, Ohio

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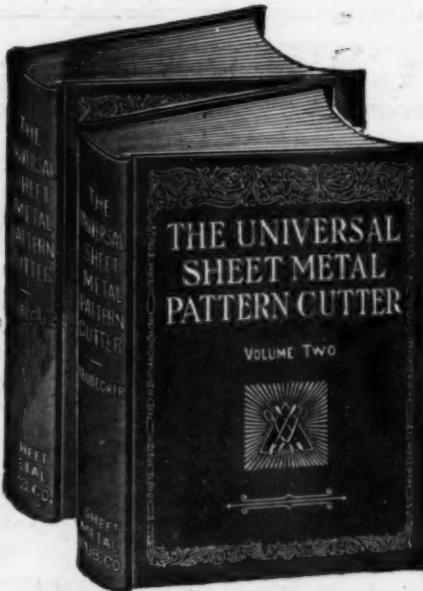
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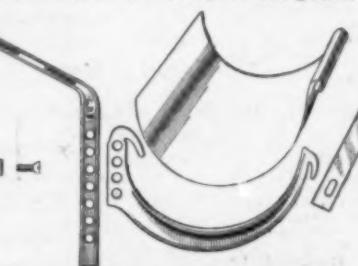
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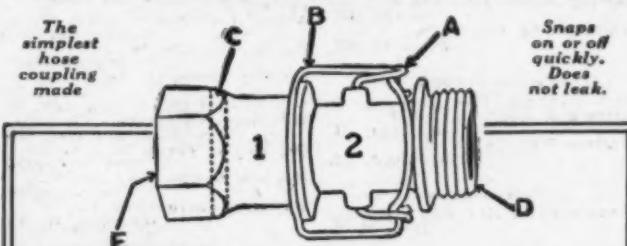
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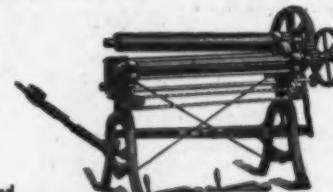
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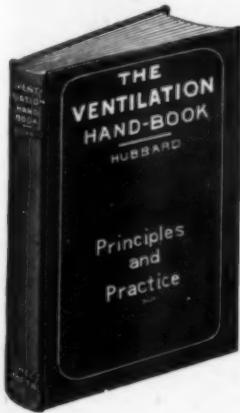
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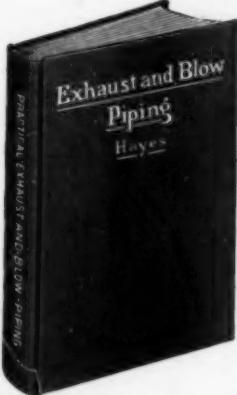
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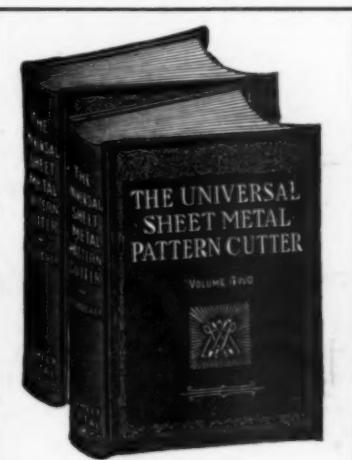


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